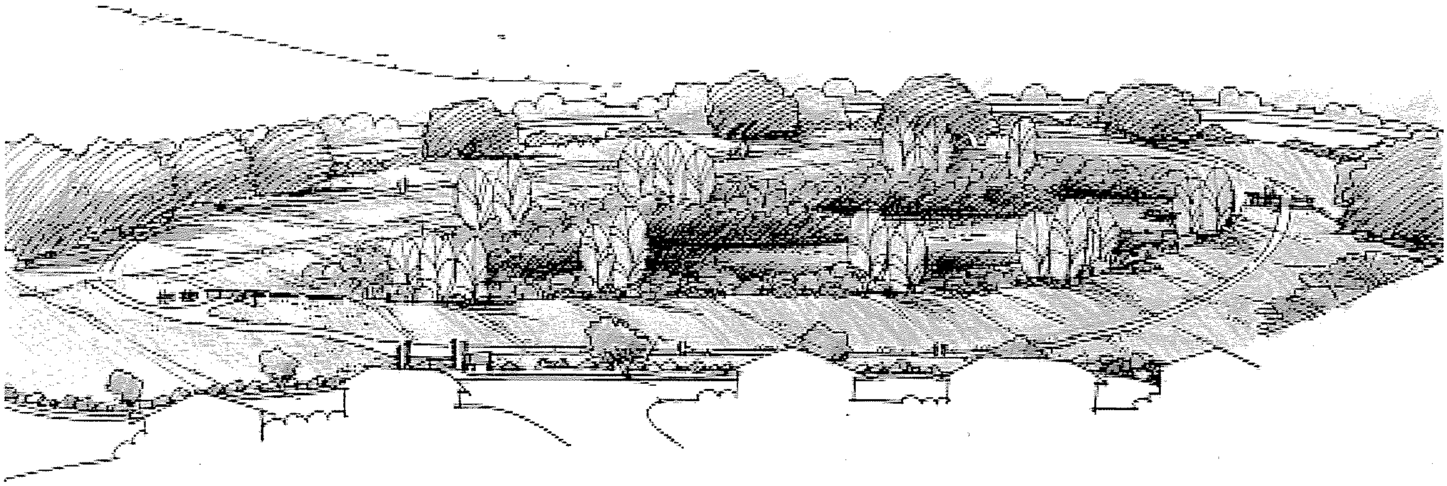
Volume 2 Environmental Impact Report

May 23, 2002

Los Capitancillos
Freshwater Wetland Mitigation Project
Planning Study



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PHILIP WILLIAMS & ASSOCIATES
CONSULTANTS IN HYDROLOGY

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LOS CAPITANCILLOS FRESHWATER WETLAND MITIGATION PROJECT

PLANNING STUDY
VOLUME ONE: ENGINEERS REPORT
VOLUME TWO: DRAFT ENVIRONMENTAL IMPACT REPORT

Engineer's Report
Prepared by:

Philip Williams & Associates, Ltd.
with
H.T. Harvey & Associates,
RBF Consulting,
Reed Dillingham & Associates, and
Parikh Consulting, Inc.

Draft Environmental Impact Report
Prepared by:

D. J. Powers & Associates
with
Philip Williams & Associates, Ltd.,
Miley Holman & Associates,
H.T. Harvey & Associates,
Parikh Consulting, Inc., and
Tetra Tech, Inc.

Prepared Under the Direction of:

Nai Hsueh, P.E.
Deputy Operating Officer

Walt Wadlow
Chief Operating Officer

Belinda Allen
Senior Project Manager

Beau Goldie
Assistant Operating Officer

MAY 2002

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E.I.R.

Draft
Environmental Impact Report

Los Capitancillos Freshwater Wetland Mitigation Site

Prepared for the
Santa Clara Valley Water District

SCH# 2001102014
EIR Text and Technical Appendices

May 23, 2002

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PREFACE

This document has been prepared by the Santa Clara Valley Water District as the Lead Agency in conformance with the California Environmental Quality Act (CEQA). The Santa Clara Valley Water District has determined that an Environmental Impact Report (EIR) is required for the construction of the Los Capitancillos Freshwater Wetland project. This EIR provides environmental review to assist the public agency decision-makers in considering the approval or denial of the proposed project.

In conformance with the CEQA Guidelines, the EIR provides objective information regarding the environmental consequences of the proposed project, and identifies possible means for mitigating impacts. The EIR also examines various alternatives to the project to reduce or eliminate significant environmental impacts. The following guidelines are included in CEQA to clarify the role of an EIR:

- **15121(a). Informational Document.** An EIR is an informational document which will inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information which may be presented to the agency.

- **15146. Degree of Specificity**. The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in the EIR.

- **15151. Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently considers environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

SUMMARY OF IMPACTS

The proposed project is the construction of a freshwater wetland mitigation site on an approximately 12.3 acre parcel in the Almaden Valley area of south San Jose, adjacent to Guadalupe Creek. Approximately 4.4 acres of the project site are suitable for the construction of a wetland. The project is being proposed by the Santa Clara Valley Water District (SCVWD) to mitigate for past and future sediment removal projects. The proposed wetland would be an open water design surrounded by tall, emergent marsh vegetation and willow/cottonwood riparian vegetation. Water would be supplied to the proposed wetland by the Almaden Valley Pipeline, located to the south of the project site.

The following brief discussion is a summary of the proposed mitigation measures to avoid, minimize, or compensate for potential impacts described within the body of this EIR. **This is only a summary. The complete project description and discussion of impacts and mitigation measures can be found in the body of the text of the EIR.**

SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impacts	Mitigation and Avoidance Measures
Land Use	
Development of the proposed project would change the character of the project site by replacing an open space with a wetland, including inlet and outlet works, an access road, and a pedestrian path. This is a less than significant land use compatibility impact. **(Less than Significant Impact)**	No mitigation is required.
The construction of a wetland on a vacant parcel would not result in a loss of open space. **(No Impact)**	No mitigation is required.
The proposed project has the potential for mosquito colonization and the production of foul odors; however, the proposed project has been designed to reduce potential impacts associated with mosquitoes and odors. **(Less Than Significant Impact)**	No mitigation is required.
The proposed project has the potential to pose a safety hazard, due to the construction of a wetland on the project site. Gentle slopes have been incorporated into the wetland design. The installation of security fencing, which is included as part of the project, would reduce safety impacts to a less than significant level. **(Less than Significant Impact with Measures Included in the Project)**	The proposed project includes security fencing to ensure that safety impacts are less than significant. **(Less than Significant Impact with Measures Included in the Project)**

Impacts	Mitigation and Avoidance Measures
Transportation and Circulation	
With the exception of an occasional visitor who might drive to the site, the proposed project would not add any vehicle trips to the adjacent neighborhood. **(Less Than Significant Impact)**	No mitigation is required.

The proposed project will result in construction-related traffic along the adjacent residential streets. The excavation of the wetland will result in approximately 37 truck trips each hour during project construction (approximately two weeks). Due to the short-term nature of this traffic, it was determined to be a less than significant impact. Nonetheless, SCVWD BMPs to reduce or avoid impacts will be implemented as part of the project. **(Less Than Significant Impact)**	No mitigation is required.

Impacts	Mitigation and Avoidance Measures
Air Quality	
The project would not generate emissions of air pollutants, nor generate traffic. Therefore, long-term air quality impacts would not occur if the project is implemented. **(No Impact)**	No mitigation is required.
The proposed project would result in construction-related air quality impacts within the project area, due to construction activities such as earthmoving, excavation, and grading operations, construction vehicle traffic, and wind blowing over exposed surfaces. All BAAQMD feasible control measures and SCVWD BMPs are included in the project to reduce potential impacts to a less than significant level **(Less than Significant Impact with Measures Included in the Project)**	BMPs are included in the project which will avoid or reduce potentially significant construction- related air quality impacts to a less than significant level (see II.C.3). **(Less than Significant Impact with Measures Included in the Project)**

Impacts	Mitigation and Avoidance Measures
Noise	
The proposed project would not result in significant noise impacts to the surrounding neighborhood due to the potential introduction of limited, authorized public access onto the site. **(Less Than Significant Impact)**	No mitigation is required.

The proposed project could have noise impacts to the surrounding neighborhood due to truck traffic transporting fill to and from the project site during construction, and due to the use of construction equipment on the project site. However, the noise will occur for only a short duration, and is therefore less than significant. Nonetheless, measures are included in the project which will further reduce or avoid these impacts. **(Less than Significant Impact)**	No mitigation is required.

Impacts	Mitigation and Avoidance Measures
Geology	
The project includes no structures, is not located on any fault lines and has a low liquefaction potential. **(Less Than Significant Impact)**	No mitigation is required.
The slopes of the wetland basin would be constructed with gentle grades and erosion protection features, therefore, it will be stable after project completion. **(Less Than Significant Impact)**	No mitigation is required.

Impacts	Mitigation and Avoidance Measures
Hydrology and Flooding	
The proposed project would not change the amount or direction of stormwater runoff from the site when compared to the existing condition. While the groundwater level on the project site may rise as a result of the project, no impacts to surrounding land uses would occur. **(Less than Significant Impact)**	No mitigation is required.
The proposed project could have impacts on water quality during project construction, but inclusion in the project of BMPs and the meeting of other regulatory requirements associated with water quality will avoid or reduce these impacts to a less than significant level. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project to reduce short-term water quality impacts to Guadalupe Creek to a less than significant level (see II.F.3.). **(Less than Significant Level with Measures Included in the Project)**

As a result of its design to avoid releases to Guadalupe Creek, the project would not result in significant long-term water quality impacts. **(Less than Significant Impact)**	No mitigation is required.

Impacts	**Mitigation and Avoidance Measures**
Biological Resources	
The loss of three to four and a half acres of ruderal habitat, as a result of construction of the proposed project is not considered significant, since this habitat is generally abundant in the project area and would be replaced with a higher habitat value. **(Less than Significant Impact)**	No mitigation is required.
No special status plant species occur on the project site. Therefore, the proposed project would not result in significant impacts to special status plant species. **(Less than Significant Impact)**	No mitigation is required.
Both Steelhead trout and Chinook Salmon are present in Guadalupe Creek adjacent to the project site. The project would not result in significant impacts to these species by stranding of fish on site, nor by altering thermal or water quality conditions within Guadalupe Creek. **(Less than Significant Impact)**	No mitigation is required.
The project would not impact Burrowing Owls and would not result in a significant loss of Burrowing Owl habitat; nonetheless, a pre-construction survey will be conducted for the presence of Burrowing Owls. **(Less than Significant Impact)**	No mitigation is required.

The project would result in the removal of several trees, which may have served as nesting sites for raptors. Construction activities may result in disturbance that leads to nest abandonment. The following measures have been incorporated into the project to reduce impacts to nesting raptors to a less than significant level: • Construction would be scheduled to avoid the nesting season. • If construction is scheduled during the breeding season, an ornithologist would conduct preconstruction surveys to ensure no raptor nests would be disturbed. • Trees removed as part of the project will be replaced at a 5:1 ratio. **(Less than Significant Impact with Measures Included in the Project)**	The project includes measures which will reduce or avoid any potential impacts to nesting raptors (see II.H.3.). **(Less than Significant Impact with Measures Included in the Project)**
Construction may impact the ability of several protected migratory birds to nest on the project site. Numerous federally protected local species are known to breed in similar habitats as those found on the project site. The following measures have been incorporated into the project to reduce impacts to nesting migratory birds to a less than significant level: • The SCVWD's Migratory Bird Treaty Act Guidelines for Compliance would be followed in order to avoid impacts to these protected bird species. • Construction would be scheduled to avoid the nesting season. • Preconstruction surveys would be conducted if it is not possible to schedule construction to avoid the nesting season. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project to reduce impacts to nesting migratory birds to a less than significant level (see II.G.3.). **(Less than Significant Impact with Measures Included in the Project)**

The proposed project would result in the loss of approximately 600 square feet of California Department of Fish & Game jurisdictional habitat. This habitat would be replaced on site at a 1:1 ratio (replacement: loss) as part of the project. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project to avoid or reduce impacts to CDFG jurisdictional habitat to a less than significant level. **(Less than Significant Impact with Measures Included in the Project)**
The removal of three non-native Northern California black walnut ordinance-size trees during construction would be a significant impact. The following measures have been incorporated into the project to reduce impacts to ordinance-size trees: ▪ Lost non-native trees greater than 18 inches in diameter would be replaced at a 5:1 ratio. ▪ Planting stock would be collected locally and replacement trees would be installed in an environment suitable for their establishment and growth. ▪ The trees would be irrigated and maintained for a period of not less than three years. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project to reduce impacts to ordinance-size trees to a less than significant level (see II.G.3.). **(Less than Significant Impact with Measures Included in the Project)**

Impacts	**Mitigation and Avoidance Measures**
Hazardous Materials	
The proposed project would not contribute significantly to the bioaccumulation of mercury in the food chain due to conversion of inorganic mercury in soils to methyl mercury, nor pose a significant human health hazard. . The following measures have been incorporated into the project to avoid or reduce impacts related to the presence of mercury in soils on the site: ▪ 12- to 18-inch clean soil liner ▪ 1 mg/kg maximum mercury concentration at surface under soil liner **(Less than Significant Impact with Measures Included in the Project)**	The proposed project has been designed to avoid impacts related to the presence of mercury in soils on the site (see II.H.3.). **(Less than Significant Impact with Measures Included in the Project)**

Water from the Calero Reservoir, which may contain low levels of mercury, is an infrequent water source for the Almaden Valley Pipeline. If this water were to be used more extensively in the future or outside the low wetland use period of December-April, the SCVWD will analyze the potential hazard and develop a strategy for minimizing impacts to the proposed wetland. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project which will reduce or avoid potential impacts associated with the use of water from the Calero Reservoir (see II.H.3.) (Less than Significant Impact with Measures Included in the Project)
The proposed project includes the short-term transport of soils with mercury levels below state and federal hazardous materials levels. The Soil Management and Health Safety Plans, which are part of the project, will include measures for storing, handling, and transporting soils containing mercury. Measures included in the project will avoid or reduce potential impacts to a less than significant level. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project to reduce or avoid impacts from the transport of soils containing mercury (see II.H.3.).**(Less than Significant Impact with Measures Included in the Project)**
Hazardous materials, including underground storage tanks, are not expected to be encountered during excavation of the project site. Regardless, the project includes measures to minimize potential impacts should materials be found. **(Less than Significant Impact with Measures Included in the Project)**	The project includes measures to reduce or avoid potential impacts associated with the discovery of hazardous materials during construction (see II. I.3.). **(Less than Significant Impact with Measures Included in the Project)**
Workers and nearby residents could be exposed to mercury from dust particles during construction, which may cause health problems. Mercury concentrations of the soils are expected to be less than the EPA hazardous materials criteria and applicable OSHA standards for workers. Therefore, this is a less than significant impact. **(Less than Significant Impact)**	No mitigation is required.

Impacts	Mitigation and Avoidance Measures
Cultural Resources	
The proposed project may result in the exposure of subsurface cultural resources. The following mitigation measures are included in the project to reduce potential impacts to cultural resources to a less than significant level: • Archaeological monitoring shall be conducted on the site by a qualified archaeologist during excavation of the project site. • In the event that archaeological materials are discovered, the SCVWD would halt work in the area identified as sensitive by the project archaeologist, until a plan for its evaluation is submitted for approval. • In the event of human remains being discovered, it would be the responsibility of the SCVWD to notify the County Coroner's office and take additional appropriate measures. **(Less than Significant Impact with Measures Included in the Project)**	Measures are included in the project that will avoid or reduce impacts to subsurface cultural resources to less than significant levels (see II.J.3.). **(Less than Significant Impact with Measures Included in the Project)**

Impacts	Mitigation and Avoidance Measures
Visual and Aesthetic Quality	
The proposed development would introduce a wetland with limited public access to the vacant project site, thereby changing its visual character. **(Less Than Significant Impact)**	No mitigation is required.

Impacts	Mitigation and Avoidance Measures
Public Services	
The proposed project would not increase the need for more park facilities within the project area. **(No Impact)**	No mitigation is required.

Cumulative Impacts

The proposed Los Capitancillos Wetland Mitigation Site project would not significantly contribute to the impacts of projects as described in the text of this EIR that may be under construction in the project area. The nature of this project is such that most of its impacts occur in or immediately adjacent to the project site. Further, the impacts are of a type that are specific to the creation of a wetland, including the hazardous materials content of the soils on the site, visual impacts of the project, potential odor and mosquito impacts, and impacts to Guadalupe Creek. Other non-wetland related impacts from this project (such as short-term construction traffic) are so small that they would be considered *de minimus* in any context.

Only construction-related impacts (noise, dust, truck traffic) might make a greater than *de minimus* contribution to cumulative impacts, but only if other construction projects were to occur nearby and at the same time. Biological impacts of the project would only be related to the possible outflows to Guadalupe Creek. During significant storm events, outflows would not increase creek temperatures above the optimum required for the survival of salmonids within the creek. In addition, the project has been designed to reduce or minimize potential thermal impacts to the creek by way of percolation to the groundwater and ultimately, the creek. Mitigation measures are included in the project that would reduce this potential impact to a less than significant level.

Mercury levels in soils on the site were found to be below state and federal hazardous materials criterion (20 mg/kg). The project would remove most of the mercury-containing soils from the portion of the site to be used as a wetland and clean, wetland cover soils would be imported for use as the wetland liner. Therefore, the construction of the project would result in less mercury on the site than currently exists.

In terms of ecological and wildlife habitat, the cumulative impacts would be beneficial. Wetland and riparian habitats, which have high ecological value, have substantially diminished due to ongoing development throughout the bay area. This project is among a series of project in recent years that are attempting to restore some of this lost habitat.

Summary of Alternatives

CEQA requires that an EIR identify alternatives to a project as proposed, including a "No Project" alternative. The CEQA guidelines specify that the EIR identify alternatives which could attain most of the project objectives but avoid or reduce the significant effects of the project. This EIR identifies three additional alternatives and compares their potential environmental impacts and their ability to meet identified project objectives.

> **No Project Alternative** - The "No Project" Alternative consists of not constructing the proposed wetland and leaving the site in its present condition. This alternative is the environmentally superior alternative since it avoids the physical impacts of the project. However, this alternative would not meet the project objectives of providing wetland mitigation habitat.

Reduced Scale, Near-Perennial Alternative - This alternative consists of a smaller (approximately 3.0 acre), near-perennial wetland on the project site. This smaller wetland would have a similar habitat mix and operational requirements as the proposed project. While it would have similar impacts to the proposed project, this alternative would provide less mitigation habitat. This would only allow the District to mitigate for past projects, but would allow very little additional acreage for future projects.

Seasonal Wetland - This alternative is a wetland of equivalent size to the proposed project, however, the wetland would be allowed to dry out during the spring and summer months. This alternative would provide the same amount of mitigation acreage with potentially fewer mosquito and odor impacts. Visual impacts may be greater, however, since the wetland would be dry for a longer period of time, which may be considered less attractive than a near-perennial wetland. This alternative would have similar construction-related impacts, however, it would provide fewer habitat types and lower wildlife values when compared to the proposed project.

Location Alternative - An alternative location for the proposed wetland was identified at the northeast corner of the intersection of Camden Avenue and Coleman Road, approximately 0.625 miles to the southwest of the project site. This approximately three-acre, SCVWD owned site is adjacent to and to the north of Guadalupe Creek between a bend in the creek and Camden Avenue. The site is similar in nature to the project site, however, it has greater constraints for development as a wetland than the proposed site. If it is determined that the site is suitable for the creation of a wetland, it would only be able to supply enough acreage for the SCVWD to only meet its past mitigation obligations, and not potential future obligations.

Since the alternative location site is adjacent to Guadalupe Creek, it most likely has mercury within its soils, similar to the project site. This soil would also need to be removed and replaced with wetland cover soils. Construction-related impacts associated with the excavation and transport of this soil would be similar to the proposed project, although the alternative site is not located as close to residential uses as the project site. The alternative site would also be more visible to the project area as it is located on a busy corner in south San Jose. This may also affect the wildlife values for the alternative location site.

Finally, the alternative location site is located on the northern side of Guadalupe Creek, which is the planned location for the creek trail, as previously described. The construction of a wetland on the alternative site may preclude the extension of this trail along the northern side of the creek. The alternative location would not provide as much mitigation area as the proposed project, with similar environmental impacts. For this reason, it is believed that this alternative would not adequately meet the project's goals and objectives.

Areas Of Controversy

Scoping meetings were held at the SCVWD's offices in San Jose on March 27 and May 30, 2001, respectively. Members of the community attending the scoping meetings were given information regarding the proposed project. Some community members approved of the project and the potential limited public access component of the proposed project. Other community members expressed reservations about the proposed land use change for the property. In terms of environmental impacts, questions were raised regarding the following issues, among others:

- the potential for an increase in mosquitoes as a result of the wetland
- the change in land use from an open field to a wetland
- the hazards associated with mercury present in the soil
- the impact the potential limited public access will have on the neighborhood
- odors which may be produced from the pond waters
- potential flooding impacts
- safety impacts

These issues have been addressed in this EIR.

SECTION I. DESCRIPTION OF THE PROPOSED PROJECT

A. OVERVIEW OF THE PROPOSED PROJECT

The proposed project is the construction of a freshwater wetland mitigation site on an approximately 12.3-acre, Santa Clara Valley Water District-owned, parcel in the Almaden Valley area of south San Jose. Approximately 4.4 acres of the 12.3-acre site are suitable for the construction of wetland mitigation. The project is being proposed by the Santa Clara Valley Water District (SCVWD) in order to create permanent wetland area as mitigation for sediment removal projects that the SCVWD performed in 1997. Mitigation area would also be provided for the SCVWD's Year 2000 Stream Maintenance Project. Additional wetland acreage, if available, would be applied toward future SCVWD projects as part of the Multi-Year Stream Maintenance Program (2002).

B. PROJECT LOCATION

The proposed project site is located on a broad and relatively level floodplain terrace along the southern bank of Guadalupe Creek, approximately 800 feet downstream of Masson Dam (refer to Figures 1, 2, and 3). The site is bounded by Guadalupe Creek on the north, Coleman Road to the east, Oak Canyon Place to the south, and Capitancillos Drive to the west. A 165-foot wide Pacific Gas and Electric (PG&E) easement and a 30-foot wide SCVWD pipeline easement are located along the southern boundary of the project site, as shown on Figure 3.

C. PROJECT DESCRIPTION

The objective of the proposed project is to construct between three and 4.5 acres of freshwater wetland on the 12.3-acre project site. The maximum wetland acreage possible on the site; however, has been determined to be 4.4 acres, with the remainder of the site to remain as ruderal habitat. As shown on Figure 4, the preliminary design for the wetland includes the creation of 3.7 acres of wetland mitigation acreage; however, additional acreage may be created during final design of the project. This EIR provides the environmental review for the maximum acreage possible on the site (4.4 acres).

Of the total ultimately constructed, 2.5 acres (0.6 acres for the 1997 Urgent Sediment Removal Project and 1.9 acres for the Year 2000 Maintenance Projects) would be used to meet previous mitigation obligations, as required by the U.S. Army Corps of Engineers. Additional acreage created may be used at the discretion of the SCVWD Board of Directors to mitigate for anticipated wetland impacts from future SCVWD maintenance projects as described in the SCVWD Multi-Year Stream Maintenance Program (2002).

These maintenance projects require the replacement of habitat lost during routine in-stream maintenance along creeks throughout Santa Clara County. Because a primary purpose of in-stream maintenance is to restore design flood control capacity by periodically removing accumulated sediment within channels, compensatory wetlands mitigation for in-stream maintenance projects cannot be located at in-stream locations subject to these disturbances. Placement of mitigation wetlands within channels might further reduce flood capacity and these wetlands would be subject to the same routine channel maintenance as impacted wetlands.

Jurisdictional Nature

The U.S. Army Corps of Engineers (USACE) has the authority to regulate waters of the United States under the Clean Water Act (CWA). It is under this statutory authority that the District was required to create the Los Capitancillos Freshwater Wetland. In its very conception, the proposed wetland project does *not* fit a key characteristic of jurisdictional waters under the CWA, as the source of the water in question – Almaden Valley Pipeline water – is *not* legally classified as waters of the United States. Yet the USACE has broad discretionary authority under the CWA as to what can constitute appropriate mitigation, both in the nature of the action and its acreage. Thus, the 1997 Urgent Sediment Removal Project's preliminary Mitigation and Monitoring Plan (1997 MMP; SCVWD 1998) accepted by the USACE explicitly acknowledged the use of Almaden Valley Pipeline water to supply the Los Capitancillos wetland developed as mitigation.

In addition to acceptance of a wetland as mitigation that relies on non-US waters as a source, the 1997 MMP also explicitly described the inclusion of open water in the target habitat mosaic, even though this type of habitat cannot meet the regulatory definition of a wetland. The open water habitat cannot meet the vegetative element of the criteria that define a wetland; for an area to be defined as wetland, it must include the presence of rooted-emergent or woody plant species. Instead, this open water component would qualify as deepwater aquatic habitat, appropriate to "[a]reas less than 6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands" (USACE 1987).

Open Water Habitat Value

The target habitat layout for the Los Capitancillos wetland includes a mosaic of open water, tall emergent marsh, riparian habitat, and a wetland ecotone area between the marsh and riparian planting zones. The inclusion of open water in the habitat mosaic will substantially increase the wildlife species richness and diversity associated with the wetland relative to one comprising primarily emergent vegetation, which would support higher numbers of individuals but fewer species. Open water will provide foraging and roosting areas for waterfowl, which will also use the tall emergent marsh plants for cover and foraging. At the Cerone wetland, a 3.2-acre constructed wetland in San Jose, the high degree of use by wildlife, particularly breeding waterfowl, was in part attributed to the availability of both open water and wetland vegetation (H. T. Harvey & Associates 2002).

The shallow and deeper open water areas of this wetland will provide foraging habitat for a variety of waterfowl and insectivorous birds. During the winter months, the American Wigeon (*Anas americana*), Canvasbacks (*Aythya valisineria*), Ring-necked Duck (*Aythya collaris*), Bufflehead (*Bucephala albeola*), and Common Goldeneye (*B. clangula*) represent examples of waterfowl likely to use this site. During the summer, breeding water birds such as the Pied-billed Grebe (*Podilymbus podiceps*), Gadwall (*A. strepera*), Mallard (*A. platyrhynchos*), American Coot (*Fulica americana*) and Common Moorhen (*Gallinula chloropus*) will use the open water for foraging and to escape from predators. Double-crested Cormorants (*Phalacrocorax auritus*) and Caspian (*Sterna caspia*) and Forster's Terns (*S. forsteri*) will forage in deeper areas of the pond. Resident Great Blue Herons

(*Ardea herodias*), Great Egrets (*Ardea alba*), Snowy Egrets (*Egretta thula*) and Black-crowned Night-Herons (*Nycticorax nycticorax*) will forage in relatively shallow open water habitat and Belted Kingfisher (*Ceryle alcyon*) may forage throughout the open water area. Swallows and Vaux's Swifts (*Chaetura vauxi*) are frequently observed foraging at the nearby Los Capitancillos Percolation Ponds and will likely forage over the open water and drink from it. Open water also improves the pond's suitability for Pacific treefrogs (*Hyla regilla*), western toads (*Bufo boreas*), western pond turtles (*Clemmys marmorata*), and California red-legged frogs (*Rana aurora draytonii*). (H. T. Harvey & Associates 2002)

Prior Regulatory Documents

The District described preliminary plans for providing compensatory (mitigation) wetlands to fulfill conditions of the USACE permit for the 1997 Urgent Sediment Removal Project in a preliminary Mitigation and Monitoring Plan (SCVWD 1998) submitted to the USACE in 1998. The District's plan identified the off-stream Los Capitancillos site as the location for mitigation of temporary impacts to in-stream freshwater wetland. That plan specified a target habitat composed of a mosaic of vegetated shallows and open water, and identified the Almaden Valley Pipeline as the water source for the mitigation site. The following text from the preliminary Mitigation and Monitoring Plan (SCVWD 1998) describes the types, functions and values of the proposed mitigation wetlands.

> The goal of the mitigation project is to create off-stream freshwater seasonal or perennial wetlands adjacent to a stream corridor. Wetland basins will be excavated in an upland field near the sounth bank of Guadalupe Creek and water will be supplied from the Almaden Valley Pipeline....
>
> Because a primary purpose of in-stream maintenance is to restore design flood control capacity by periodically removing accumulated sediment within channels, compensatory wetlands mitigation for in-stream maintenance projects cannot be located at in-stream locations subject to these disturbances. Placement of mitigation wetlands within channels might further reduce flood capacity and these wetlands would be subject to the same routine channel maintenance as impacted wetlands.
>
> .... The particular suite of plant species targeted for planting and the types of plants expected to colonize the site will be determined during the detailed design phase and will be dependent on hydrological analyses of the site. It is, however, expected that grasslike perennial emergents, such as cattails (*Typha* spp.), tules (*Scirpus* spp.), rushes (*Juncus* spp.) and sedges (*Cyperus* and *Carex* spp.) will be important components of the plant association, and plantings will consist entirely of native, locally-occurring species. The design is expected to include a matrix of vegetated shallows, with open water to increase the diversity of habitat features for a variety of wetland-related wildlife species.

Current Regulatory Agency Response

The conceptual wetland design, including a large percentage of open water habitat, was presented to the permitting agencies at an Interagency Meeting on September 12, 2002. At that meeting, USACE staff informally recognized the conceptual design as providing acceptable mitigation habitat to fulfill sediment removal permit conditions. This conceptual design was then further described in the final draft *1997 and 2000 Stream Maintenance Projects Nontidal Wetland Mitigation And Monitoring Plan (Los Capitancillos Freshwater Wetland Mitigation Site),* which was submitted to the USACE in March 2002 (H.T. Harvey & Associates 2002). At each stage of review of the Los Capitancillos project, USACE staff has indicated that a habitat mosaic that includes a large percentage of open water habitat would provide acceptable mitigation to meet the District's permit obligations.

The following project description is based upon the Draft Engineers Report prepared for the Los Capitancillos Freshwater Wetland Mitigation Project by *Philip Williams and Associates Ltd.* (April 2002). The Engineers Report is Volume I of the Planning Study for the proposed project.

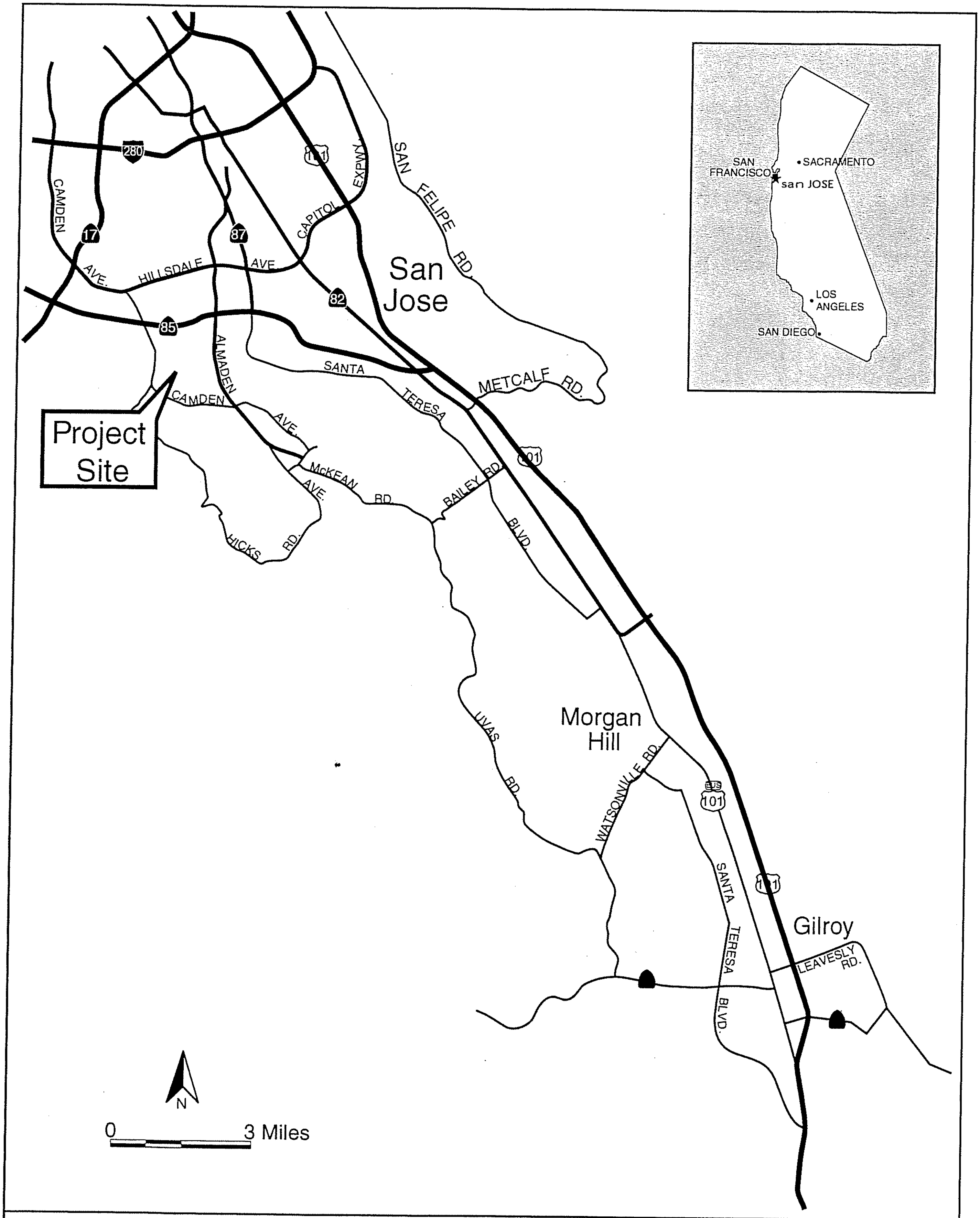
Enhancement opportunities as presented to the District Board in this ER/EIR differs from the usual practice of first requesting the District Board for direction to pursue or not pursue planning of enhancement features prior to incorporating those enhancement features into the CEQA planning process. In this case, the Board is being requested to adopt the enhancement features as part of the EIR or deny the enhancement features by not adopting the enhancement parts of the project. The enhancement features, as described in this document, consist of limited public access facilities and the additional oak/willow riparian habitat along the outlet swale in the eastern portion of the site that is not required to meet project mitigation requirements.

The proposed wetland would be an open water design surrounded by tall, emergent marsh vegetation and a willow/cottonwood riparian fringe up to 20 feet wide, as shown on Figures 4 and 5. The open water habitat provided has been determined by the regulatory agencies to meet the mitigation requirements of previous SCVWD projects, as discussed at the Interagency Meeting held on September 12, 2001 (refer to Section VI. of this EIR). The provision of open water would encourage wildlife species diversity by creating habitat for a variety of wetland-related wildlife species, including ducks, shorebirds, and wading birds, as stated in the Santa Clara Valley Water District Urgent Sediment Removal Project Compensatory Wetlands Mitigation and Monitoring Plan (June 8, 1998). In addition, the suitability of the proposed wetland for California tiger salamander and California red-legged frog would be greatly enhanced by the provision of a high percentage of open water habitat.

Water depths within the proposed wetland would range from less than two feet to a maximum of six feet, as shown in the following table:

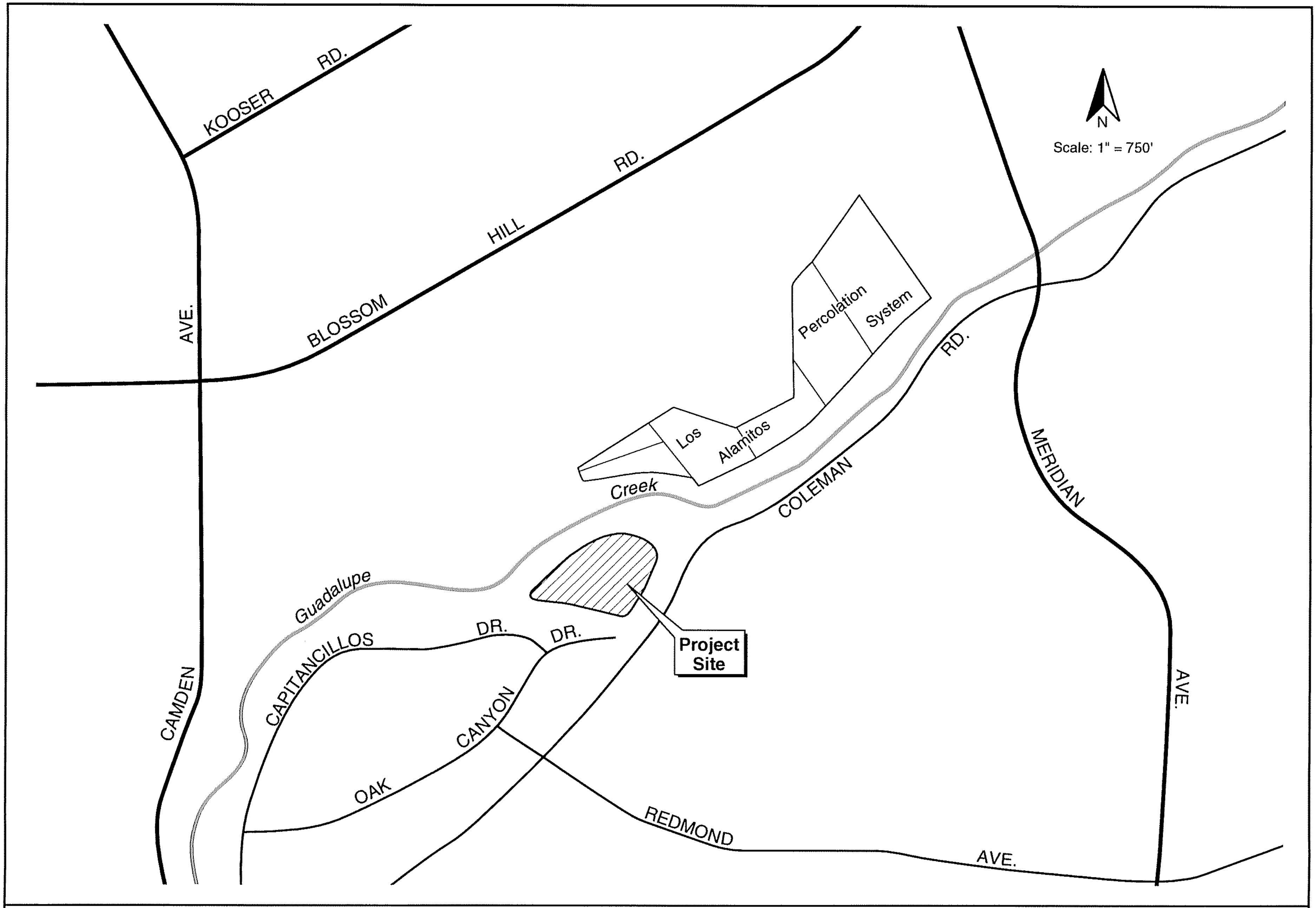
TABLE 1. TARGET WETLAND HABITAT MOSAIC

Habitat Type	Target Mitigation Area (acres)	Approximate Percent of Ponded Area	Approximate Percent of Mitigation Area	Water Depth Range (in Feet)
Deeper Open Water	1.8	60	49	2.5 - 6
Shallow Open Water	0.5	17	14	1.5 - 2.5
Tall Emergent Marsh	0.7	23	19	0 – 1.5
Riparian	0.7	0	19	0
Oak Woodland	0	0	0	0
TOTAL	3.7			



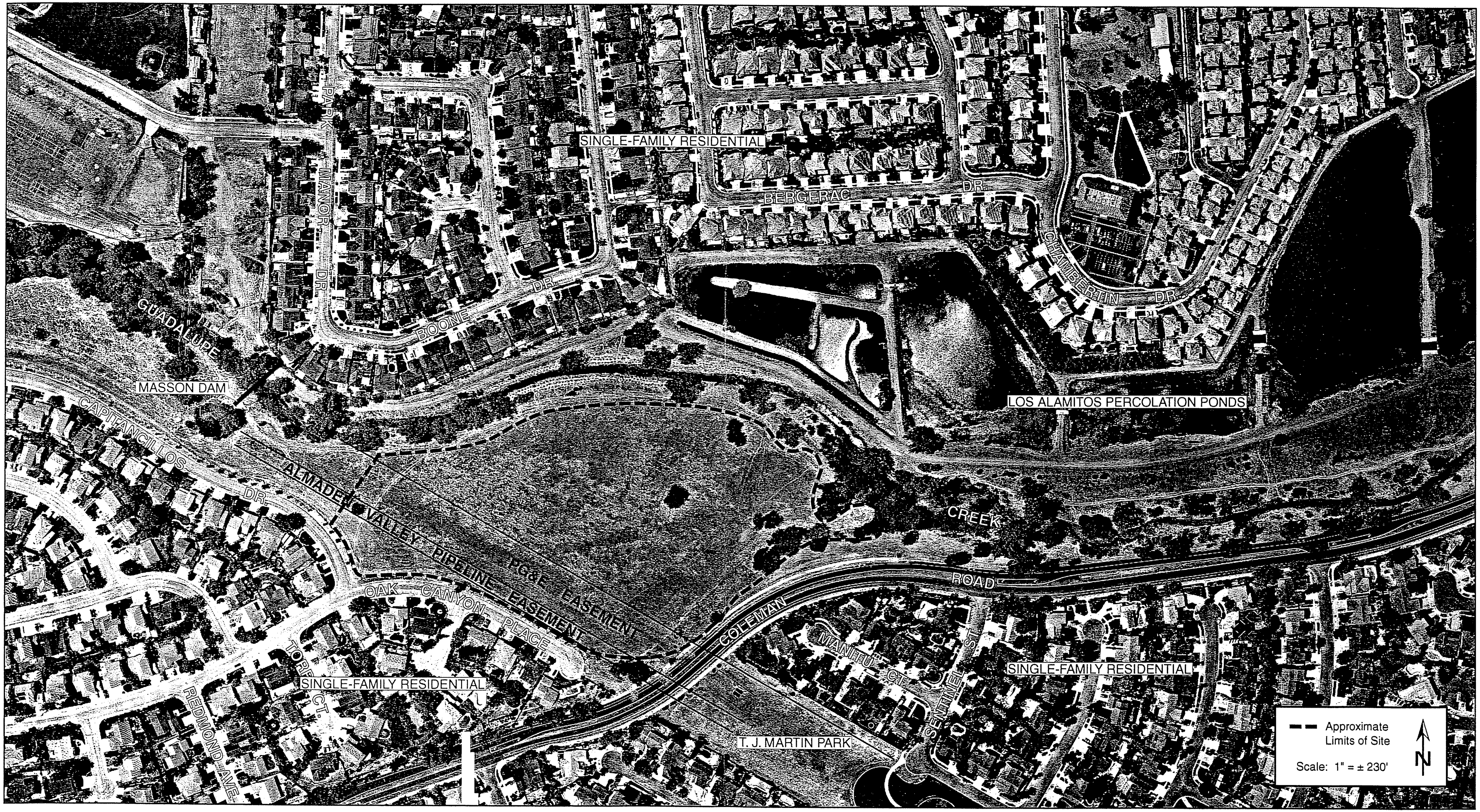
REGIONAL MAP

FIGURE 1



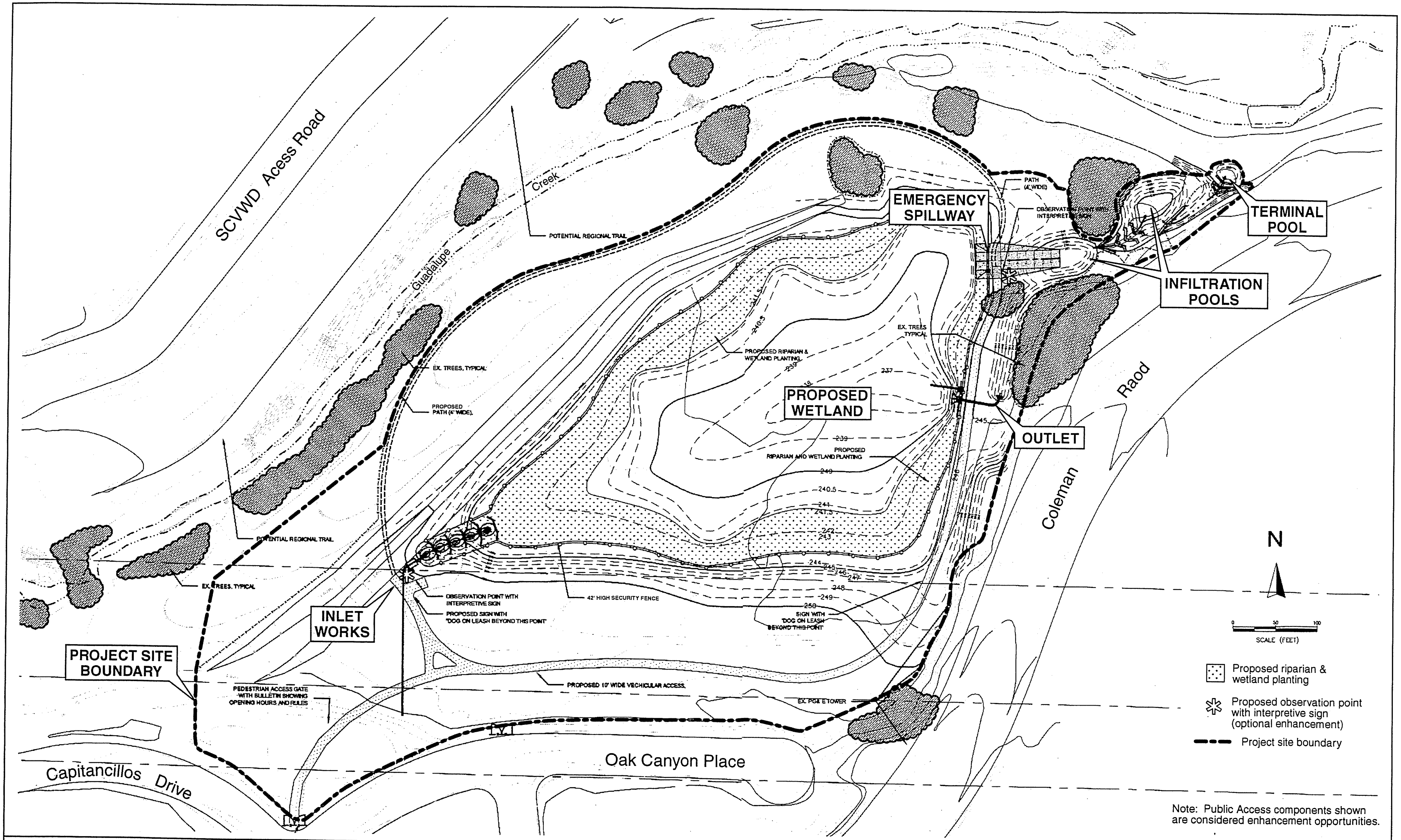
VICINITY MAP

FIGURE 2



AERIAL PHOTOGRAPH WITH SURROUNDING LAND USES

FIGURE 3



Note: Public Access components shown are considered enhancement opportunities.

SITE PLAN

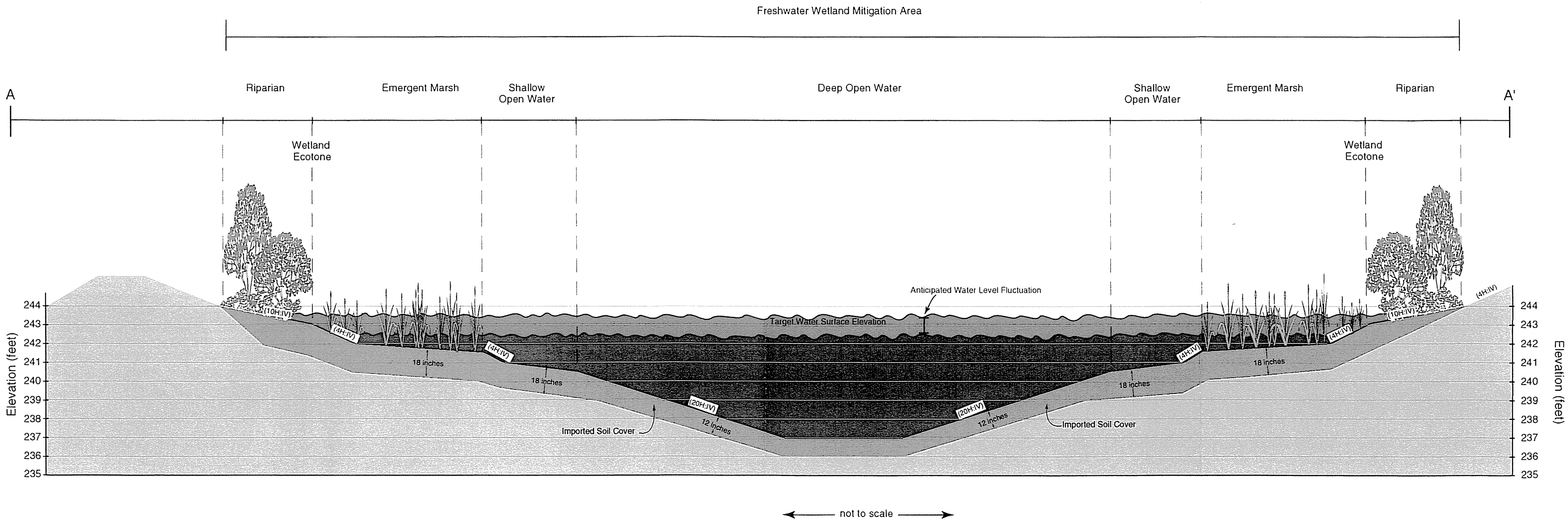
FIGURE 4

Water would be supplied to the wetland by the Almaden Valley Pipeline, located to the south of the proposed project, as shown on Figure 3. The pipeline, which is owned and operated by the SCVWD, transfers raw, untreated water from five possible sources to the Santa Teresa Water Treatment Plant, located on Graystone Way, to the southeast of the project site. The primary source of water for the pipeline is the San Luis Reservoir; however, other possible sources include: Anderson Reservoir, Almaden Reservoir, Calero Reservoir, Del Valle Reservoir (in Livermore), and the State Water Project's Banks Pumping Plant in the Sacramento River Delta.

The proposed wetland mitigation site is intended to reflect the natural habitat and environment of wetlands in Santa Clara Valley. Water would be supplied to the project site during initial wetland establishment (no less than five years) as needed to meet target water levels; in the future, however, the SCVWD may not be able to supply water to the proposed mitigation wetland during natural drought periods. It is expected that some die-back of vegetation would occur during these drought periods; however, once water is reintroduced to the site, gradual recovery of site vegetation would be expected to occur. If a recovery to the project coverage goals of 75% for emergent marsh and 40% for riparian vegetation has not been achieved within three years after a deficit in water supply has occurred, then the SCVWD will take remedial action, which may include replanting, so as to achieve these goals within the subsequent three years.

Water levels within the wetland would be controlled by manually-operated or automated inlet works throughout the year. Routine operations would include draining the wetland annually so that there is no ponded water for at least two weeks to limit bullfrog reproduction. Pipeline inflows would be turned off in the early fall to allow water levels to recede gradually, through evaporation and percolation, for approximately one month. This drawdown would be supplemented as necessary using the wetland outflow percolation systems. This two-week period with no ponding would kill bullfrog larvae and thus prevent bullfrog reproduction. In addition, the annual drawdown would provide foraging habitat for fall migrating shorebirds. No surface waters would be discharged to Guadalupe Creek during this drawdown.

The project site is located adjacent to and south of Guadalupe Creek. Another SCVWD project is located along both banks of Guadalupe Creek to mitigate for Shaded Riverine Aquatic (SRA) habitat that was lost as part of the flood control project along the downstream reaches of the Guadalupe River. As part of the Guadalupe Creek Project, a lower elevation floodplain terrace was excavated to increase the conveyance capacity of the existing channel and grading was done to separate the new terrace from the project site, as shown on Figure 4. As a result of this grading, the ground elevation between the wetland site and Guadalupe Creek is now one foot higher than the estimated Guadalupe Creek 100-year water surface elevation, which will prevent creek flows and sediments from entering the majority of the project site up to and including the 100-year flood event.



Target Mitigation Site Habitat Mosaic	
Deep Open Water	= 48.5% (2.5' - 6' deep)
Shallow Open Water	= 13.5% (1.5' - 2.5' deep)
Emergent Marsh	= 19% (0' - 1.5' deep)
Riparian	= 19%

Note: The location of this cross-section can be seen on Figure 8.

Source: H.T. Harvey & Associates

WETLAND DESIGN CROSS-SECTION

FIGURE 5

The proposed project would include the following components as described in detail in the Engineer's Report prepared by *Philip Williams and Associates, Ltd. (PWA)* (Volume I of this Planning Study):

- Excavation of existing soils on the site to create a wetland basin;
- Installation of a wetland topsoil (cover) layer suitable for wetland plant and underwater invertebrate establishment;
- Construction of an inlet to transfer water from the Almaden Valley Pipeline to the proposed wetland;
- Construction of an outlet system to minimize outflows from the wetland in the eastern (downstream) portion of the site;
- Planting of native wetland and riparian species;
- Provision of mosquito and odor abatement procedures; and
- Provision of additional enhancement opportunities for the site, subject to SCVWD Board approval including:
  - limited public access for recreational activities such as bird watching and walking on the project site, and
  - the installation of additional oak/willow riparian habitat along the outlet swale in the eastern portion of the site.

Excavation

The project site is currently an open field comprised primarily of non-native grassland habitat. As discussed in the hazardous materials section of this report, soils within the proposed wetland footprint contain mercury primarily due to mercury mining operations upstream in the Guadalupe Creek watershed, from 1845 to 1975. Mercury levels in the soil on the site are below thresholds established by the State of California and the U.S. Environmental Protection Agency for residential areas (See Section H, *Hazardous Materials*) and do not represent a human health hazard. However, the total mercury concentration on the site exceeded the San Francisco Regional Water Quality Control Board's (RWQCB) screening criteria for wetland cover soil (0.4 mg/kg).

Therefore, due to the presence of mercury within the wetland footprint, the proposed wetland area would be excavated to the design excavation grade or lower to provide an excavation surface with a total mercury concentration less than or equal to one mg/kg to provide an appropriate surface for placement of a wetland cover soil liner, as described below. Soil with mercury concentrations less than or equal to one mg/kg will be used to refill to the design excavation grade, if necessary.

The slopes of the proposed wetland would be graded at the approximate slopes shown in Figure 5. It is estimated that approximately 33,000 cubic yards of soil would be excavated from the site; approximately 9,000 cubic yards of which would be reused/placed on site, including within the PG&E easement area. Therefore, approximately 24,000 cubic yards of soil would be exported from the site. These numbers are approximate and may change based on confirmation sampling during construction and available fill volume on the site. Any hazardous materials removed from the site would be handled and disposed of by a licensed hazardous waste disposal contractor and transported to an appropriately licensed and permitted disposal or recycling facility, in accordance with federal, state, and local requirements.

Installation of Wetland Topsoil

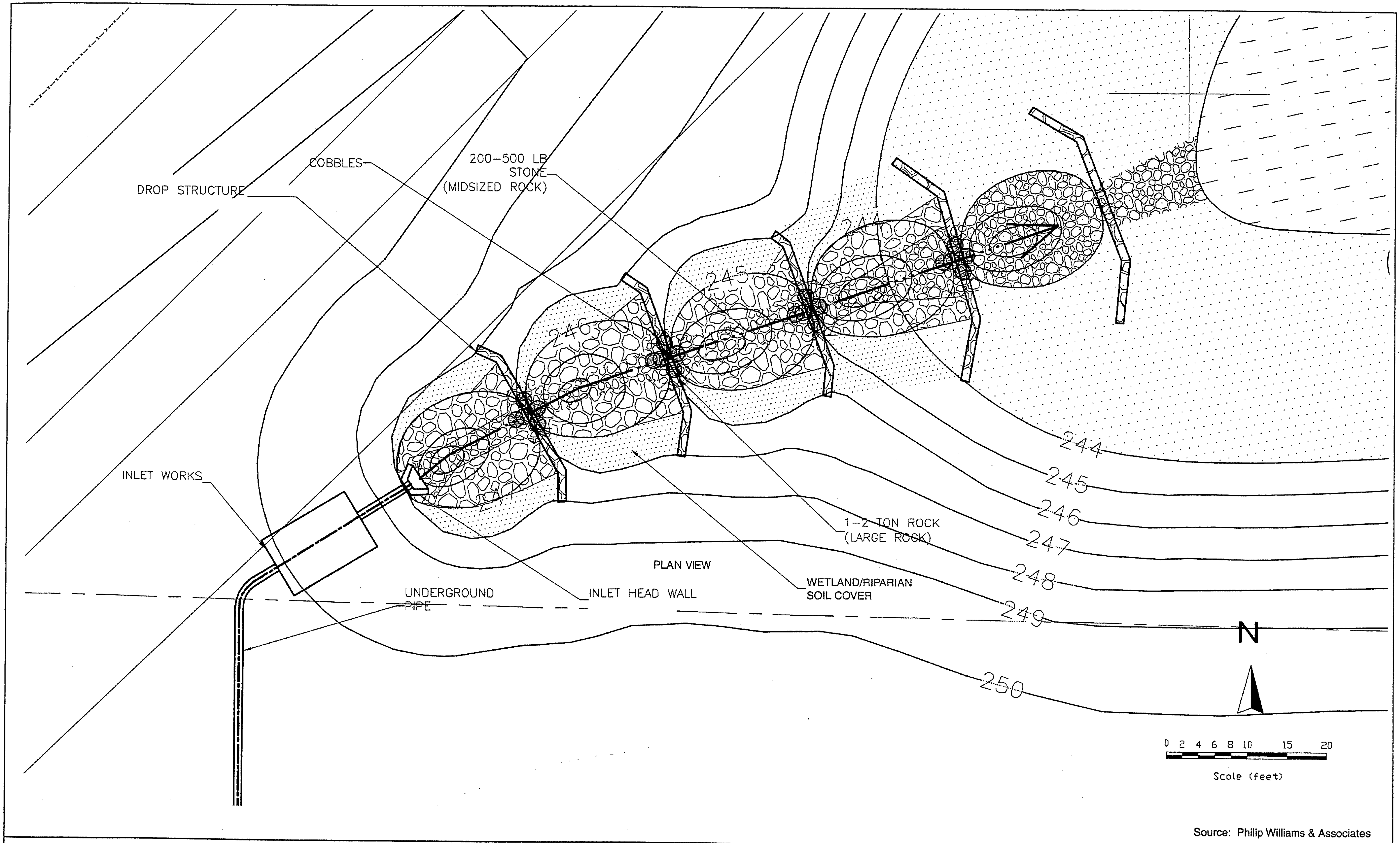
The soils on the site are not suitable to support rapid establishment and the high productivity of wetland vegetation, due to their high rock and gravel content, low organic matter content and relatively high ratio of magnesium to potassium and calcium. Therefore, due to the presence of mercury and the unsuitability of soils for use within a wetland, the excavated wetland area would be lined with a layer of clean, imported wetland cover soil. This imported soil would be tested for contaminants and confirmed to be clean as required by the San Francisco Regional Water Quality Control Board (SFRWQCB, 2000) draft screening criteria for wetland cover soil, which is 0.4 mg/kg (dry weight).

Approximately 10,000 cubic yards of fill would be imported for this soil cover. For the proposed project, an 18-inch thick soil layer would be provided for the riparian and tall emergent marsh habitat, and a 12-inch thick soil cover layer for the open water habitat, as shown on Figure 5. The wetland soil cover would be designed to provide infiltration rates to assist in the annual drawdown of pond waters.

Inlet Works

The inlet works for the proposed wetland would provide a connection to transfer water from the Almaden Valley Pipeline near the western end of the site to the wetland. The inlet works would include a piped connection and an inflow channel into the wetland, as shown on Figure 6. The piping design includes both valves and level controls along with instrumentation to control inflow rates and water levels in the wetland. The inlet works also includes a connection to irrigation piping required to maintain the riparian plantings on the site. The inlet channel includes a series of pools that would provide a total drop of three feet by incorporating steps formed by one- to two-ton rocks between the pools. The inlet would then be lined by riparian vegetation to give the inlet channel a creek-like appearance.

The design flow rate for the inlet is based on the flow rate required to refill the wetland after the annual draw-down period in the late fall of each year. This flow rate would be sufficient to fill the wetland over the course of one month, taking into account water losses due to infiltration and evaporation. As described in the Engineer's Report, it has been determined that the flow rate would be approximately four cubic feet per second.



Source: Philip Williams & Associates

INLET WORKS

FIGURE 6

Outlet Works

The project has been designed to maximize percolation and minimize outflows from the wetland. An outlet works along the eastern bank of the proposed wetland has been designed to facilitate the percolation of outflows from the wetland related to operation and maintenance (such as the annual drawdown). The only time that outflows to the creek would occur would be during significant storm events (50-year or greater). The design for the outlet works includes a concrete outlet structure, an emergency spillway, a network of percolation drains, an outlet swale with a percolation channel, two infiltration pools, and a terminal pool, as shown on Figure 7.

Emergency Spillway

An emergency spillway would be constructed on the east side of the wetland. The crest of the spillway is proposed to be 20-feet wide, with a one-foot depth and would be constructed of an articulated concrete block system. The use of the concrete block system, with its open cell blocks, would provide an armored saddle to allow for emergency overflow without damage to the existing graded area, and facilitate the establishment of vegetation. Overflows from this spillway would enter the previously described outfall channel.

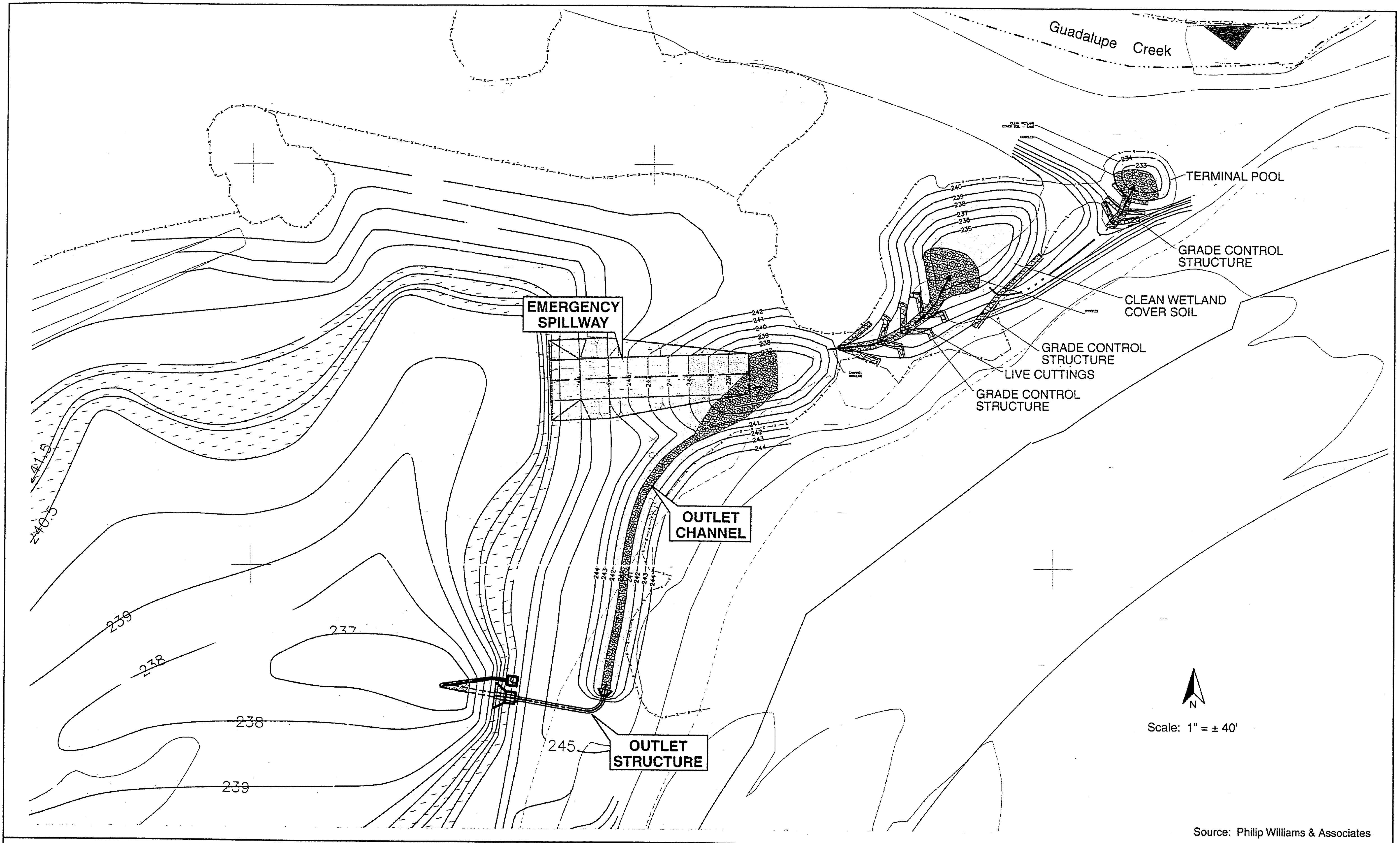
Percolation Drains

In order to facilitate the annual drawdown of the proposed wetland, a network of percolation drains would be installed under the wetland cover soil. This percolation system would supplement percolation, as necessary, and prevent surface discharge to the creek during regular operation of the wetland.

Outlet Swale

The design of the outlet works includes two infiltration pools along the outlet channel (which is itself designed for high infiltration) and a terminal pool on the high flow terrace of Guadalupe Creek to prevent outflows to the creek, except during significant storm events. In addition, a trench filled with drain rock is proposed for the outlet channel between the outfall structure and the first infiltration pool. The infiltration pools would be approximately two to three feet in depth and lined with gravel or cobble.

The proposed project would require the removal of three non-native trees on the site and would impact 600 square feet of California Department of Fish and Game (CDFG) jurisdictional area in the eastern area of the site, as the outlet works will include excavation and placement of clean soil at the terminal pool, in proximity to Guadalupe Creek. The removal of vegetation, placement of fill, or other impacts from construction in this area would require a Streambed Alteration Agreement from the CDFG. Fifteen trees and 600 square feet of willow plantings would be planted along the outlet swale as mitigation for the proposed project. It is believed that since willows were observed in this area, this location is suitable for willow riparian restoration. As previously mentioned, additional plantings of oak/willow riparian habitat along the outlet swale are included in the project as an optional enhancement opportunity, under the discretion of the SCVWD Board of Directors. These plantings would provide additional shade and habitat along the outlet swale; however, they are not included in the overall wetland mitigation credit for the project.



Source: Philip Williams & Associates

OUTLET WORKS

FIGURE 7

The proposed outfall to Guadalupe Creek includes a terminal pool on the existing high flow terrace of the creek. Discharges from the terminal pool would be limited to the minimum necessary to prevent flooding of upland areas, and therefore, would only occur during large storm events (50-year events or greater, which have a 2% probability of occurrence in any year). The peak outflow from the wetland during a 100-year storm would be approximately 1.7 cubic feet per second (cfs). The estimated peak flow in the creek during a 100-year storm has been estimated to be 3,600 cfs (*Guadalupe Creek Restoration Project Engineers Report*, SCVWD, November 2000). Therefore, the potential 100-year peak outflow from the wetland would be extremely small, and would constitute less than one tenth of one percent of the 100-year peak flow in the creek. Given the highly permeable nature of the sandy soils on the high flow terrace, any low flows discharged into the terminal pool during non-storm events would percolate into the soil.

Vegetation Plantings

The target habitat layout for the proposed wetland includes emergent marsh, wetland ecotone, riparian, and outflow swale planting zones. The riparian planting zone would be located in a strip (up to 20-feet wide) around the outer perimeter of the wetland. Between the emergent wetland and riparian planting zones, there would be a narrow wetland ecotone planting area to increase the diversity at this transition area. The outflow swale planting zone would be along outlet channels and infiltration pools and would provide both mitigation habitat as well as opportunities for enhancement.

Prior to project construction, three existing Northern California black walnut trees would be removed and salvaged for use on the project site within the riparian planting zones. These trees are not native to the area and are presumed to be remnants of an orchard believed to have been located on the site. All herbaceous vegetation within the planting zones would be treated with an herbicide legally appropriate for use in the area, and after death would be cut to a maximum height of two inches and removed from the site. A bubbler irrigation system would be installed for the trees, shrubs, and herb plantings in the riparian and outflow swale planting zones.

Plants would be installed on the site in the planting zones, as shown in Table 2, below and on Figure 8. All plantings would be done as described in the Engineer's Report (Volume I).

In the emergent marsh planting zone, plants would include common tule, California bulrush, and three-square bulrush. It is anticipated that cattails would establish rapidly on the wetland bench via natural recruitment from wind-dispersed seed; however, active planting of the other species would help prevent the development of monotypic cattail stands. The wetland ecotone planting zone would consist of a narrow band at the transition between the emergent marsh and the riparian habitat. Plants would include California aster, western goldenrod, smartweed, and bur reed. The riparian habitat would consist of a band (up to 20-feet wide) of red willow, arroyo willow, and Fremont cottonwood trees, California blackberry, mugwort, snowberry, marsh baccharis, and creeping wild rye planted around the perimeter of the wetland pond.

Plants would be installed between fall and winter 2002-2003 and monitored for five years to determine plant establishment. Should plants die after installation, they would be replaced according to the Mitigation and Monitoring Plan to be prepared for the project. Soils may be amended on the site prior to planting to improve their fertility for plant establishment. All outflow swale and riparian plants would be fitted with root protection cages. After plant and irrigation installation, broad-scale wood mulch would be applied to a depth of approximately four inches with a pneumatic blower and application hose.

TABLE 2. PLANT INSTALLATION GUIDELINES

Planting Zone	Name	Approximate Percentage within Planting Zone	Average On-Center Spacing (in feet)	Container Size	Number of Plants Required
Emergent Marsh	Common Tule	45%	4	Treeband	1,175
	California bulrush	45%	4	Treeband	1,175
	three-square bulrush	10%	4	Treeband	261
Wetland Ecotone	California aster	25%	4	1-gallon	102
	western goldenrod	25%	4	1-gallon	102
	smartweed	25%	4	treeband	102
	bur reed	25%	4	treeband	102
Riparian (trees)	red willow	40%	12	Cuttings	81
	arroyo willow	30%	12	Cuttings	60
	Fremont cottonwood	30%	16	Cuttings	60
Riparian (shrubs)	California blackberry	40%	8	Deepot	417
	snowberry	20%	8	1-gallon	207
	mugwort	10%	8	Deepot	105
	marsh baccharis	10%	8	Deepot	105
	creeping wild rye	20%	8	1-gallon	207
Outflow Swale (15 of the trees would be planted for mitigation)	valley oak	50%	18	Seeding[1]	26
	blue elderberry	20%	12	Seeding[1]	6
	California buckeye	10%	12	Seeding[1]	6
	red willow	40%	12	Seeding[1]	47

[1] Direct seeding is preferred; however, container stock would be grown as a contingency in case of poor acorn production or high buckeye seedling mortality.

Mosquito and Odor Abatement

The SCVWD has consulted with the Santa Clara County Vector Control to reduce the potential for mosquito colonization in the wetland. As a result, the project has been designed to minimize mosquito colonization and abundance by:

- Incorporating at least 60% open water deeper than three feet and less than 40% emergent marsh and shallow open water;
- Maximizing wind fetch by providing a significant area and duration of deep open water ponding;
- Minimizing areas of flow stagnation by avoiding the creation of coves;
- Draining the pond completely during drawdown, and
- Providing for adaptive management of water levels and flow-through to increase water circulation, if needed.

Trees around the perimeter of the wetland would be planted with a minimum of eight-foot spacing to provide gaps in the vegetation for access by County vector control staff. Trimming of these trees may be required to permit Vector Control access by foot if spray treatment is required. During the drawdown period, the pond would dry out completely through natural percolation, with no persistent shallow puddles where mosquitoes could reproduce.

Swallows and bats forage on aerial insects; therefore, the project includes the installation of swallow and bat nest boxes on the site to help control mosquitoes. As part of the proposed project, thirty swallow boxes would be installed within the open water habitat of the wetland. The nest boxes would be mounted on posts four to six feet above the water's surface. Additional boxes would be placed in the upland areas of the wetland and bat boxes would be placed within the riparian zone.

Any area of standing water can produce algae until the water column becomes hypoxic (low dissolved oxygen concentrations). As the algae decompose, foul odors can be produced. The proposed project has been designed to reduce the possibility of foul odor production by increasing the aeration of inflows at the inlet works. Adaptive management practices, including decreasing the hydrologic residence time with percolation, will provide higher oxygen content in pond waters. During the warm spring and summer months, the pond would be supplied with new waters from the pipeline, further reducing the potential for odors. In addition, the annual drawdown of the wetland would serve to reduce the potential for foul-smelling algae in the pond by aerating wetland soils.

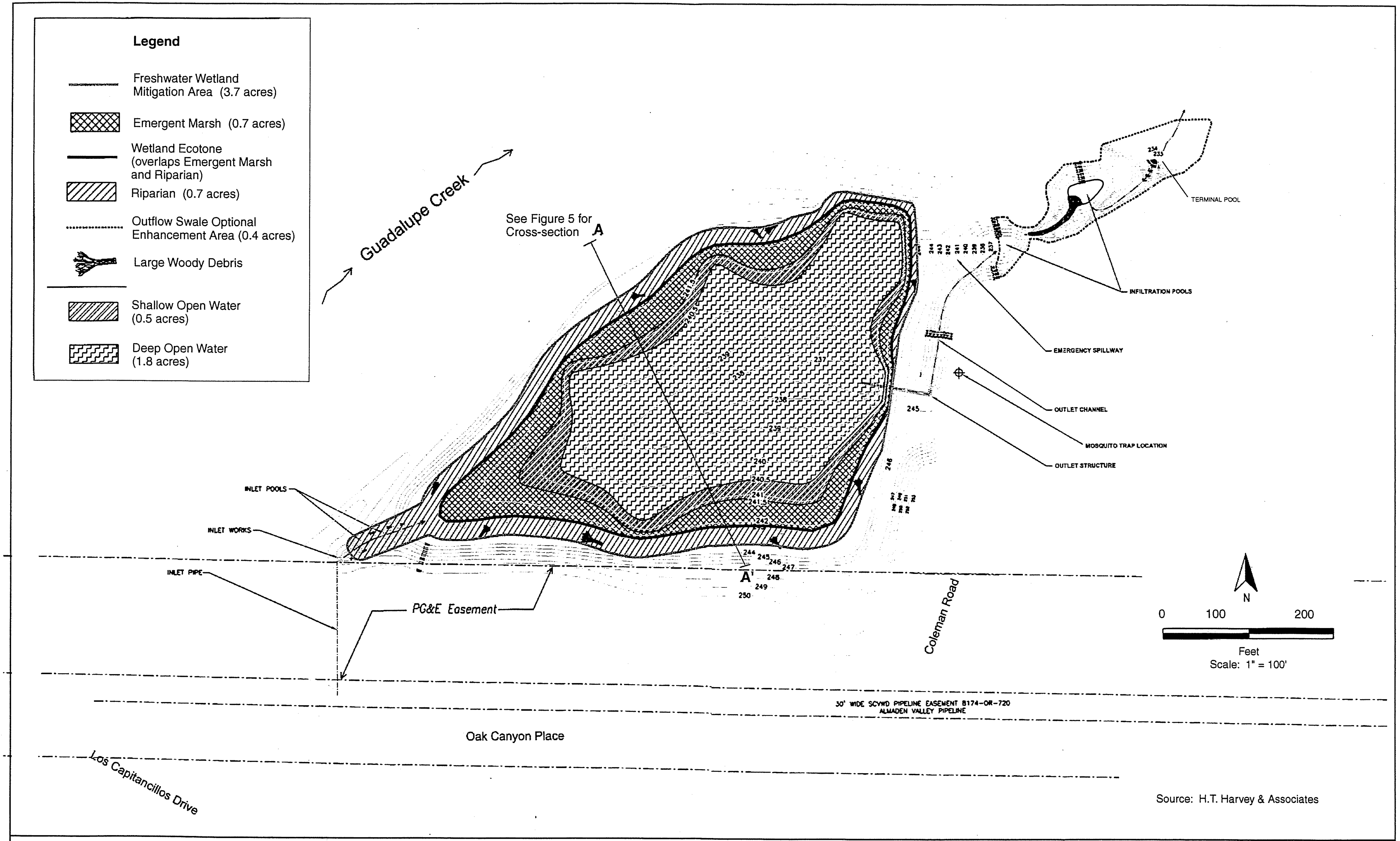
Access

Maintenance access to the site for SCVWD and Santa Clara County Vector Control staff would be required for the project. This access would be provided from an existing gate on Oak Canyon Place. A ten-foot wide access road would be constructed from the gate to the valves and controls at the inlet and outlet works, along the southern and eastern perimeter of the wetland, as shown on Figure 4.

At the discretion of the SCVWD Board of Directors, an optional enhancement of the project is to provide limited public access on the site. A preliminary design has been developed for public access that would create a pathway around the wetland, utilizing the ten-foot wide dirt access road, as previously described, and also providing a pervious four-foot wide pathway along the northern perimeter of the wetland. By creating a pathway that loops around the wetland, visitors would have visual access to both the creek and the wetland, so they would be more likely to stay on the path. This document provides the environmental review for this optional public access component.

No playgrounds, picnic areas, or ball fields would be created on the site. A viewing platform with interpretive signage is proposed near the inlet and outlet works, where they can be comfortably integrated into the landscape. The site would be signed as closed at dusk and would not include any nighttime lighting.

Fencing to control visitors and/or dogs and to discourage access for feral animals, to the extent possible, is proposed along the perimeter of the wetland, as shown on Figure 4. This fencing would be placed in such a way as to limit its visibility from the wetland and the surrounding neighborhood. Signs would also be installed warning visitors that all dogs must be on leashes within the wetland site.



Source: H.T. Harvey & Associates

PROPOSED HABITATS AND PLANTING AREAS

FIGURE 8

Public Utility Easements

PG&E owns and operates utility facilities which are located within and adjacent to the southern boundary of the proposed project. To promote the safe and reliable maintenance and operation of utility facilities, the California Public Utilities Commission (CPUC) has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, Santa Clara Valley Water District will coordinate with PG&E early in the development of its project plans. Any proposed development plans for the project will provide for unrestricted utility access and prevent easement encroachments that might impair the safe and reliable maintenance and operation of PG&E's facilities. The proposed project would not affect PG&E electric transmission facilities.

D. PROJECT SCHEDULE

It is anticipated that final design and construction plans for the project would be completed by the summer of 2002 and construction bids would be acquired in the fall of 2002. The proposed project is scheduled for physical completion by December 31, 2002.

E. PROJECT OBJECTIVES

The objective of the proposed project is to construct by December 31, 2002 at the Los Capitancillos site, wetland and riparian habitat mitigation that meets or exceeds three acres as proposed in the SCVWD Multi-year Stream Maintenance Program of 2002 to a maximum of 4.5 acres. Of the total wetland acreage constructed, 2.5 acres would be provided to meet previous obligations for freshwater wetland compensatory mitigation (0.6 acres for the 1997 Urgent Sediment Removal Project and 1.9 acres for the Year 2000 Maintenance projects). Additional acreage created could be used to mitigate for anticipated wetland impacts from future SCVWD maintenance projects as described in the SCVWD's Multi-Year Stream Maintenance Program (2002). The project also includes two optional enhancement components, including limited public access to the project site and the placement of additional oak/willow plantings in the outlet swale area of the proposed project. These optional enhancements would be discretionary actions to be considered by the SCVWD Board of Directors.

F. CONSISTENCY WITH RELEVANT PLANS AND POLICIES

The following section discusses the consistency of the proposed project with relevant plans and policies, in conformance with Section 15125(b) of the CEQA Guidelines.

1. Regional Plans and Policies

1982 Bay Area Air Quality Plan and 2000 Clean Air Plan
ABAG/BAAQMD/MTC

The 1982 Bay Area Air Quality Plan and 2000 Clean Air Plan (CAP) establish regional policies and guidelines to meet the requirements of the Clean Air Act, as amended through 1990. The Bay Area is a non-attainment area for carbon monoxide, since federal standards are exceeded for that pollutant. Each non-attainment area was required to submit detailed plans to the State by June 30, 1991, to demonstrate new air pollution control programs and schedules for their implementation.

The Bay Area 2000 Clean Air Plan is the current strategy for improving air quality. The Plan proposes the adoption of transportation, mobile source and stationary source controls on a variety of pollutant sources to offset population growth and provide improvement in air quality.

Consistency: The proposed project would conform to the Clean Air Plan, because it would not increase existing or future traffic congestion, thereby increasing the discharge of air pollutants; nor would it generate additional traffic volumes or result in unplanned growth. In addition, the SCVWD shall implement BAAQMD Enhanced Dust Control Measures during project construction. These measures include spraying sites with soil stabilizer or hydroseeding, limiting traffic speeds, using sandbags or other bank protections to prevent silt runoff to roadways, and replanting disturbed areas as soon as appropriate. For these reasons, the project is in conformance with the Clean Air Plan.

Santa Clara Valley Urban Runoff Pollution Prevention Plan

The Santa Clara Valley Urban Runoff Pollution Prevention Program, previously called the Santa Clara Valley Non-point Source Program, was developed in accordance with the requirements of the 1986 San Francisco Bay Basin Water Quality Control Plan, for the purpose of reducing water pollution associated with urban stormwater runoff. This program was designed to fulfill the requirements of Section 304(1) of the Federal Clean Water Act which mandated that the EPA develop National Pollutant Discharge Elimination System (NPDES) Permit application requirements for various stormwater discharges, including those from municipal storm drain systems and construction sites.

Consistency: The proposed project would conform to the requirements of the NPDES permitting program. Since the project would include grading and excavation in proximity to a creek, and therefore there is a potential for sediment to be deposited in the creek during construction, a SWPPP would be completed for the project if necessary. In addition, runoff-bourne pollution would have the potential to adversely affect water quality after construction due to the asphalt paving that may be constructed as part of the optional public access component. Section II. E, *Water Quality*, of this EIR identifies mitigation measures including Best Management Practices, to reduce water quality impacts in runoff, both during construction and permanently following construction. Therefore, the project would be consistent with the standards of the Santa Clara Valley Urban Runoff Pollution Prevention Program.

Santa Clara County Countywide Trails Master Plan Update
November 14, 1995

The project site is located adjacent to a branch of the Juan Bautista de Anza National Historic Trail Route (R1-A [bike]), which is designated as a regional trail route in the 1995 Santa Clara County Countywide Trails Master Plan. This trail route commemorates the route taken by Anza in 1775-76 when he led a group of colonists from what is now Sonora, Mexico to the San Francisco Bay where they established a presidio and mission for New Spain. The future trail through the area is also designated as the Guadalupe subregional trail (S3), which is routed in a north-south direction from the Bay Trail in San Jose to the Guadalupe Reservoir, upstream of the project site.

The Master Plan includes planning strategies for the Countywide Trails system, as well as design and management guidelines for the implementation of "new" trails. The Master Plan includes guidelines regarding trails and land use compatibility, environmental protection, emergency access, easements, trail design, visual screening, fire protection, signage, and maintenance.

Consistency: The proposed project is the construction of a wetland on a vacant parcel adjacent to and south of Guadalupe Creek. It is not apparent from the map in the Master Plan whether the trail is planned for the northern or southern side of the creek. According to the City of San Jose; however, the trail is proposed for the northern side of the creek to take advantage of the existing SCVWD access road located there.[1] The Project would not affect the trails proposed for the project area, and is therefore, consistent with the Santa Clara County Countywide Trails Master Plan Update.

2. Local Plans and Policies

City of San Jose 2020 General Plan

The City of San Jose 2020 General Plan is the primary planning tool for guiding growth and development within the City. The Land Use designation for the proposed project site is *Public Park/Open Space*. This designation is applied to lands that are publicly owned, though in some instances, public access may be restricted. These lands are devoted to open space use for the most part; although some development, such as restrooms, playgrounds, educational/visitor centers, and parking areas, is an inherent part of many of the properties so designated.

The most prevalent Public Park and Open Space uses are City and County parks. Other properties included in this designation are publicly owned open space lands and recreation facilities other than parks, including the Santa Clara Valley Water District creeks and percolation ponds.

The General Plan also designates the project area along the creek as a Trails and Pathways Corridor. The types of trails that can be located in a designated Trail and Pathway Corridor are hiking, walking, jogging, equestrian, and bicycle paths. As previously described, the project would not affect trails planned for the project area.

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[1] Doug Critchfield, City of San Jose Parks and Recreation Department, personal communication, February 2002.

Consistency: The Project is consistent with the City of San Jose's 2020 General Plan land use designation for the project site because it is the construction of a wetland with some potential public access components and the site would remain as open space. As previously stated, the project would not preclude the construction of a trail on the northern side of the creek through the project area.

The following City of San Jose 2020 General Plan policies are considered relevant to the project:

General Plan Strategies, Goals, and Policies

Aesthetic, Cultural, and Recreational Resources, Parks and Recreation, Policy 7

The City encourages the SCVWD, school districts, PG&E, and other public agencies and utilities to provide for appropriate recreational uses of their respective properties and rights-of-way. Consideration should be given to cooperative efforts between these entities and the City to develop parks, pedestrian and bicycle trails, other open space areas, and recreational facilities and programs.

Consistency: The proposed project is the construction of a wetland on a parcel owned by the SCVWD. The project includes an optional public access component, and its construction would not affect the planned construction of a creek trail on the northern side of Guadalupe Creek. Therefore, the Project is consistent with the Parks and Recreation policies of the General Plan.

Natural Resources, Natural Communities and Wildlife Habitats, Riparian Corridors and Upland Wetlands Policies 1, 2, and 6

Creeks and natural riparian corridors and upland wetlands should be preserved whenever possible. New public and private development adjacent to riparian corridors should be consistent with the provisions of the Riparian Corridor Policy. The City encourages appropriate native plant restoration projects along riparian corridors, upland wetlands, and in adjacent upland areas.

Consistency: The proposed project is consistent with the policies described above since it would result in the preservation and enhancement of the riparian corridor along Guadalupe Creek. The project is consistent with the City of San Jose's Riparian Corridor Policy, because it would not construct any hardscape (concrete, benches, buildings, etc.) within 100 feet of the top of bank of the creek.

City of San Jose Zoning Ordinance

The City of San Jose zoning designation for the project site is *Agricultural (Planned Development)* or *A(PD)*.[2] This zoning designation was obtained during the development of the adjacent residential uses in the late 1970s. According to the *Lands of Athenour Environmental Impact Report* (1977), which was prepared for the residential development, including the proposed project site, the site will "be acquired by the Santa Clara Valley Water District and will remain as part of the floodplain of Guadalupe Creek."

A Planned Development Permit was obtained for the site as part of the development of the residential area located to the west of the site on September 13, 1978. As part of the PD Permit, the project site and a portion of creek frontage to the west of the site were to "be acquired by the Santa Clara Valley Water District and would remain as part of the floodplain of Guadalupe Creek". While the majority of the project site is no longer within the floodplain of Guadalupe Creek due to the construction of the graded area along its northern boundary by the Guadalupe Creek Restoration Project, according to the City of San Jose Planning Department, the proposed wetland would be consistent with this zoning designation.[3]

Consistency: As previously described, the project is consistent with the zoning designation for the site.

G. USES OF THE EIR

The SCVWD is the Lead Agency under the California Environmental Quality Act (CEQA). This EIR is intended to provide environmental review and information to the public and decision-makers regarding the proposed change in land use and proposed project for the following actions by the SCVWD:

- Approval of project design.
- Award of design and construction contracts.

Permits from the following agencies would also be acquired:

- Improvements may require permitting from the California Department of Fish and Game.
- Tree Removal Permit from the City of San Jose.

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[2] City of San Jose Zoning Ordinance, Revised January 1997.
[3] Jodie Clark, City of San Jose Planner II, email dated February 23, 2001.

SECTION II. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

A. LAND USE

1. Existing Setting

Existing Land Uses on the Project Site

The vacant project site is located in the Almaden Valley of south San Jose, adjacent and to the south of Guadalupe Creek. The site is located approximately 800 feet downstream of Masson Dam on a broad and relatively level floodplain terrace, as shown in Photo 1. The site is bounded by Guadalupe Creek on the north, Coleman Road to the east, Oak Canyon Place to the south, and Capitancillos Drive to the west. A 165-foot wide Pacific Gas and Electric (PG&E) easement and a 30-foot wide SCVWD pipeline (the Almaden Valley Pipeline) easement are also located along the southern boundary of the project site, as shown on Figure 3.

During public hearings for the project and field observations, it has become apparent that the project site is currently being used by residents of the surrounding neighborhood for unauthorized recreational uses, including walking dogs and riding bikes. The project site is accessed from Oak Canyon Place, Capitancillos Drive, and the floodplain area to the west of the site.

Surrounding Land Uses

The area surrounding the proposed wetland site is comprised primarily of single-family residential uses. The Los Alamitos Percolation Ponds are located on the northern side of Guadalupe Creek, to the northeast of the project site, as shown on Figure 3. The PG&E easement located to the east of the site, across Coleman Road, is a vacant portion of T.J. Martin Park, which is a greenbelt chain developed within the easement by the City of San Jose. The nearest residential areas are located across Oak Canyon Place, and the view of the site from Oak Canyon Place is shown in Photo 2.

The project site is located adjacent to and south of Guadalupe Creek. Another SCVWD project is located along both banks of Guadalupe Creek to mitigate for Shaded Riverine Aquatic (SRA) habitat that was lost as part of the flood control project along the downstream reaches of the Guadalupe River. As part of the Guadalupe Creek Project, a lower elevation floodplain terrace was excavated to increase the conveyance capacity of the existing channel and grading was done to separate the new terrace from the project site, as shown on Figure 4.

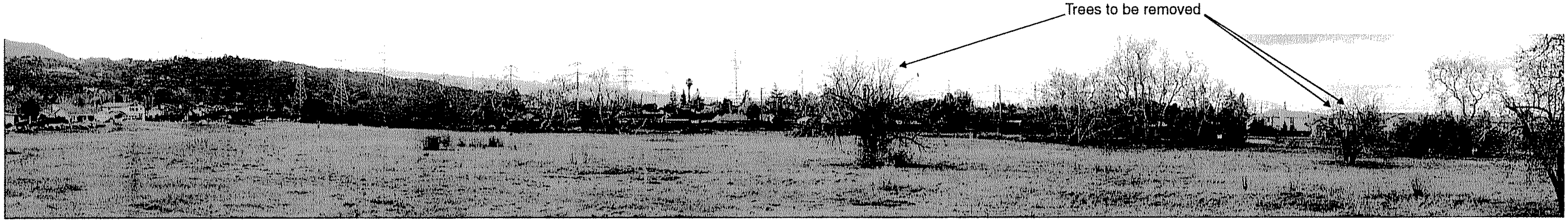

Photo 1: View of the project site taken from Coleman Road, looking to the north. The homes along Oak Canyon Court can be seen to the left. The three trees that would be removed as part of the project are shown.

PHOTO 1

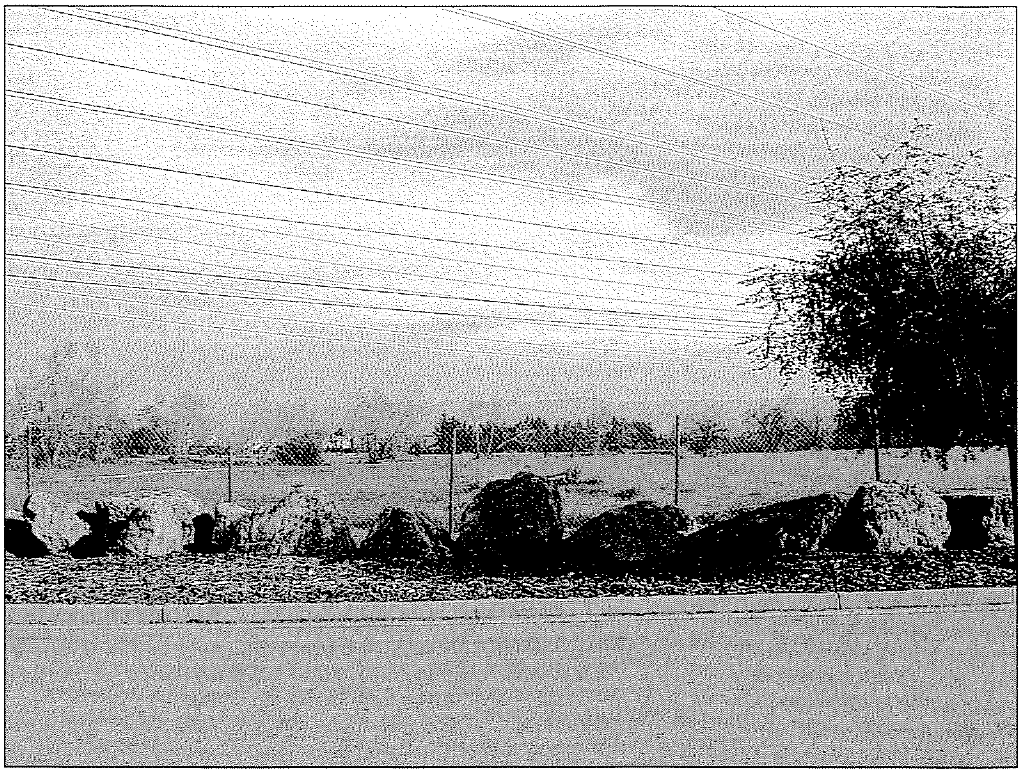

Photo 2: View of the project site taken from Oak Canyon Place, looking to the northeast. The PG&E overhead transmission lines can be seen.

PHOTO 2

General Plan and Zoning

As described in Section I, the project site designated *Public Park/Open Space* in the City's 2020 General Plan. This designation is applied to lands that are publicly owned, though in some instances, public access may be restricted. These lands are devoted to open space use for the most part; although some development, such as restrooms, playgrounds, educational/visitor centers, and parking areas, are an inherent part of many of the properties so designated. The project is consistent with the City of San Jose's 2020 General Plan land use designation for the project site because it is the construction of a wetland with some potential public access components.

The City of San Jose zoning designation for the project site is *Agricultural (Planned Development)* or *A(PD)*. This zoning designation was obtained during the development of the adjacent residential uses in the late 1970s. According to the Lands of Athenour Environmental Impact Report which was prepared for the adjacent residential development, including the project site, the site will "be acquired by the Santa Clara Valley Water District and would remain as part of the floodplain of Guadalupe Creek. As previously described, the proposed wetland would be consistent with the zoning designation for the site.

2. Land Use Impacts

Thresholds of Significance

For the purposes of this project, a land use impact is considered significant if the project would:

- substantially adversely change the type or intensity of existing or planned land use in the area; or
- be incompatible with surrounding land uses or with the general character of the surrounding area, including density and building height; or
- divide or disrupt the physical arrangement of an established community; or
- result in the loss of existing or planned open space; or
- conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use; or
- induce substantial population growth in an area, either directly (for example by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Land Use Impacts

Land use incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. For the purposes of this report, there are two main land use impacts of the project. The first are impacts arising from land use compatibility conflicts, including minor irritations and impacts on human health and safety. The second impact would be from the loss of open space or the recreational uses of the site.

Impacts from the Project

Land Use Compatibility

Development of the proposed project would change the character of the project site. It would replace an open space area with little vegetation with a wetland including inlet and outlet works, an access road, and a pedestrian path. A viewing platform with interpretive signage is proposed near the outfall ponds, where it can be integrated into the landscape.

The site is separated from other surrounding residential areas by the creek, the percolation ponds, and Coleman Road, therefore users of the site access it from the Oak Canyon neighborhood to the south and west. Since the site is currently used for unauthorized open space and recreational uses, the construction of official public access uses as an optional enhancement, as described in the Project Description, would not result in additional impacts the neighborhood.

Additional parking spaces would not be required for visitors of the site, as most visitors are expected to be walkers from the neighborhood to the south and west. It should be noted that the proposed project does not include a creek trail, which is anticipated to be constructed along the northern bank of Guadalupe Creek, sometime in the future.

No buildings would be demolished, nor any residents displaced as a result of the proposed project. The project would not divide or disrupt the physical arrangement of an established community, and would potentially serve to add a recreational and educational element for the use of the neighborhood to the west of the site.

- **The proposed project would not result in significant impacts associated with land use compatibility. (Less than Significant Impact)**

Loss of Open Space

The proposed project would result in the conversion of a vacant open space area that is occasionally the site of unauthorized recreational activities to an open space area with open water and significantly more vegetation than currently exists on the site. After project construction the site would continue to be used for open space and limited, passive recreational use would now be authorized.

- **The construction of a wetland on a vacant parcel would not result in a loss of open space. (No Impact)**

Odors and Mosquitoes

As previously described, the proposed project has been designed to reduce the potential for mosquito colonization in the wetland. The geometry of the proposed wetland has been designed to provide a simple edge of emergent vegetation and a large open water area that is subject to wind disturbance, which is inhospitable to mosquito reproduction. The project also includes the installation of thirty swallow boxes within the open water habitat of the wetland. The nest boxes would be mounted on posts four to six feet above the water's surface. Additional boxes would be placed in the upland areas of the wetland and bat boxes would be placed within the riparian zone.

The proposed project has been designed to reduce the possibility of foul odor production by regulating flows both into and out of the wetland. In addition, the annual draw-down of the wetland would serve to reduce the amount of algae in the pond. The proposed wetland would be managed using standard SCVWD procedures pertaining to odors and mosquitoes at percolation ponds. These measures have been highly effective for minimizing odor and mosquito impacts at SCVWD percolation ponds, which are also located in proximity to residential uses.

- **The proposed project has been designed to include measures that would avoid or reduce potential impacts associated with mosquitoes and odors to a less than significant level. (Less than Significant Impact)**

Safety

The proposed project is the construction of a wetland adjacent to a residential neighborhood. The project would have a limited, optional public access component, which would allow visitors, including children, to walk around the site and view the wetland. The maximum depth of the proposed wetland would be approximately six feet; however, the slopes of the pond would be very gradual and dense vegetation would serve to minimize access to the pond, as shown on Figure 5. Nonetheless, security fencing, constructed according to SCVWD standards would be placed between the pathways and the wetland, to keep visitors on the pathway and out of the water. It is expected that this fencing would be up to 42 inches in height and be of wood frame construction with wire mesh. The provision of this fencing would reduce potential safety impacts to a less than significant level.

- **The installation of security fencing, which is included as part of the project, would reduce the safety and security impacts of constructing a wetland adjacent to a residential neighborhood to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

3. Mitigation and Avoidance Measures for Land Use Impacts

The project includes features as described above to ensure that land use impacts are less than significant. No mitigation measures are required. **(Less than Significant Impact with Measures Included in the Project)**

B. TRANSPORTATION AND CIRCULATION

A traffic report was not prepared for the project because the project would not generate 100 long-term, peak hour trips per day, which is the threshold for such reports in the City of San Jose. A brief description of traffic conditions within the project area, as well as potential impacts of the project and mitigation measures are presented below.

1. Existing Setting

The project site is located in the Almaden Valley of south San Jose, adjacent to a residential neighborhood. Vehicular access to the site is through the neighborhood via Oak Canyon Drive and Oak Canyon Place. While the site can also be reached via Capitancillos Drive, it is not the most direct route to the site.

Oak Canyon Drive and Oak Canyon Place are residential streets in the neighborhood bounded by Coleman Road, Camden Avenue, and Guadalupe Creek. Access to the neighborhood is from Coleman Road via Monteval Lane and Redmond Avenue, both of which intersect Oak Canyon Drive. During site visits at various times of the day, it was observed that traffic volumes on these surrounding streets are typical of residential streets in the City of San Jose.

Oak Canyon Place is a street spur, in that it ends near Coleman Road and does not have a cul-de-sac bulb at its terminus. Homes are located along the southern side of Oak Canyon Place and the project site is located on the northern side of the street. The northern side of the street has no sidewalk and there are large boulders placed on the dirt area, as shown in Photo 2. On-street parking is available along both sides of the street.

2. Impacts

Thresholds of Significance

For the purposes of this project, a transportation impact is considered significant if the project would:

- cause a long-term increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system; or
- exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways; or
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks, pedestrian paths or trails); or
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; or
- result in inadequate emergency access; or
- result in inadequate parking capacity; or

- result in substantial disruption during construction (e.g., lengthy street closures, loss of access, etc.).

Long-Term Traffic Impacts

The proposed project would create wetland habitat. Unlike many projects such as residential developments, shopping centers, etc., this type of project typically does not generate additional traffic. Although the project design includes limited public access as an optional enhancement, such access is anticipated to be in the form of persons walking from the adjacent Oak Canyon neighborhood. It should be noted that the creek trail proposed for the area would not be located on the project site; it is planned for the northern side of Guadalupe Creek.

The passive nature of the proposed public access component of the proposed project (i.e., no picnic areas, regional trails, playgrounds, ball fields, etc.) means that it would not normally attract visitors who arrive/depart in automobiles. The occasional visitor who would drive to the site would be able to utilize the existing on-street parking along Oak Canyon Place.

It should also be noted that, unlike some large nature preserves (e.g., Palo Alto Baylands), this would not be the type of project that would be a destination for hiking long distances. The optional public access component of the project is secondary to the ecological component. To this end, no signs directing the public to the site would be erected by the SCVWD.

- **With the exception of an occasional visitor who might drive to the site, the proposed project would not add any vehicle trips to the adjacent neighborhood. (Less than Significant Impact)**

Construction-Related Traffic Impacts

During construction of the proposed project, construction vehicles would travel along Redmond Avenue and Oak Canyon Drive to access the site located at the intersection of Los Capitancillos Drive and Oak Canyon Place. The largest component and most notable of construction traffic would be the truck trips required to haul approximately 34,000 cubic yards (24,000 cubic yards exported and 10,000 cubic yards imported) of fill to and from the site. A large truck can haul approximately 26 cubic yards of material per load. Under this assumption, roughly 2,615 total truck trips would be needed to haul the fill to and from the site. Given that the duration of these hauling trips is anticipated to be a minimum of two weeks, and assuming a hauling period from 9 a.m. to 4 p.m. each weekday, this estimate would yield an average of 37 truck trips each hour. This volume would be well within the capacity of the streets. [Note: The 9 a.m. to 4 p.m. timeframe assumes that hauling would not be permitted during the morning and afternoon peak commute periods.]

The potential significance of construction traffic can be assessed using the thresholds adopted by the Institute of Transportation Engineers (ITE) (1989). The ITE recommends that an impact be examined more closely if it involves an increase of 50 or more trucks, 100 passenger vehicles, or an equivalent combination of vehicles per hour in the peak direction during the peak hour at any roadway intersection. The volume of construction-related traffic due to the proposed project would be well under these thresholds. Therefore, this impact is considered less than significant. This is especially true given the fact that no hauling will be permitted during peak commute periods, as described below. While this impact is considered less than significant, the project includes BMPs to further reduce or avoid potential construction-related traffic impacts, as described below.

Construction of the project is not expected to require temporary street and lane closures. Loss of access to/from residences in the neighborhood adjacent to the project site would not occur during construction. Emergency access in the project area would be unaffected during project construction.

The maximum number of construction workers on the site at any one time is estimated to be 12 workers. These workers would park on the site during project construction. Given that the project site is 12.3 acres in size and a relatively small portion of that would be required for construction of the wetland, there is ample space on the site for the parking of 12 vehicles during project construction. Therefore, it is not anticipated that construction workers would be required to park on adjacent residential streets.

◆ **The proposed project would not result in significant construction-related traffic impacts along city streets within the project area. (Less than Significant Impact)**

3. Mitigation and Avoidance Measures

While the project would not result in significant construction-related traffic impacts, the implementation of the following measures (BMPs) would avoid or further reduce any potential for impacts associated with construction traffic.

Measures Included in the Project

Construction-Related Traffic

- Implementation of all SCVWD Best Management Practices (BMPs) to avoid or reduce potential construction-related impacts. These BMPs include:
    - Preparation and implementation of a traffic safety plan. This plan will address appropriate vehicle size and speed, travel routes, detour and closure plans, flagperson requirements, coordination with law enforcement and fire control agencies, emergency access to ensure public safety, and the need for traffic and speed-limit signs.
    - Providing advance notice of construction in writing to surrounding residents. Such notice shall include a phone number for residents to call should problems arise.
    - The transportation of imported and exported materials will occur during non-peak traffic commute hours (9:00 a.m. to 4:00 p.m., Monday through Friday).
    - Installing a geotextile mat at access locations to minimize mud from being tracked out of worksites onto roadways.

- Streets will be swept daily with water sweepers if visible soil material is carried onto adjacent public streets.
- All trucks hauling soil or other loose materials will be covered or will be required to maintain at least two feet of freeboard.

Conclusion: **Implementation of the measures described above would avoid or further reduce potential construction- related traffic impacts of the proposed project. (Less than Significant Impact)**

C. AIR QUALITY

1. Existing Setting

Air Pollution Climatology

The amount of a given pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

Topography can restrict horizontal dilution and mixing of pollutants by creating a barrier to air movement. The project area has significant terrain features that affect air quality. The Santa Cruz Mountains and the Mount Hamilton Range on either side of the south bay area restrict horizontal dilution, and this alignment of the terrain also channels winds from the north to the south, carrying pollution from the northern Peninsula toward southern San Jose, particularly during the summer months.

The combined effects of moderate ventilation, frequent inversions that restrict vertical dilution and terrain that restrict horizontal dilution give San Jose a relatively high atmospheric potential for pollution compared to other parts of the San Francisco Bay Air Basin.[4]

Ambient Air Quality Standards

Both the U. S. Environmental Protection Agency (EPA) and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The Federal and California state ambient air quality standards are summarized in Table 3 for important pollutants. Table 4 identifies the major criteria pollutants, characteristics, health effects and typical sources. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempt to avoid health-related effects. As a result, the Federal and State standards differ in some cases. In general, the California State standards are more stringent. This is particularly true for ozone and particulates (PM_{10})[5].

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[4] Air Quality Impact Analysis for the Veritas Office Complex, Mountain View, Donald Ballanti, Certified Consulting Meterologist, July 1999.

[5] PM-10 refers to particulate matter less than ten microns in diameter.

TABLE 3. FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	**Averaging Time**	**Federal Primary Standard**	**State Standard**
Ozone	1-Hour 8-Hour	0.12 PPM 0.08 PPM	0.09 PPM --
Carbon Monoxide	8-Hour 1-Hour	9.0 PPM 35.0 PPM	9.0 PPM 20.0 PPM
Nitrogen Dioxide	Annual Average 1-Hour	0.05 PPM --	-- 0.25 PPM
Sulfur Dioxide	Annual Average 24-Hour 1-Hour	0.03 PPM 0.14 PPM --	-- 0.05 PPM 0.25 PPM
PM-10	Annual Average 24-Hour	50 μg/m^3 150 μg/m^3	30 μg/m^3 50 μg/m^3
PM-2.5	Annual 24-Hour	15 μg/m^3 6 μg/m^3	-- --

PPM = Parts per Million

μg/m^3 = Micrograms per Cubic Meter

It should be noted that the courts recently held the new ozone and PM-2.5 Federal standards as unconstitutional. No new standards have been set, therefore, for purposes of this project they are used to determine thresholds.

Ambient Air Quality

The Bay Area Air Quality Management District (BAAQMD) monitors air quality at several locations throughout the San Francisco Bay Air Basin. Carbon monoxide is a local pollutant, that is, high concentrations are normally only found very near sources. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volume. During the three-year period from 1998 to 2000, there were no violations of federal standards, and 22 violations of state standards in San Jose.

Sensitive Receptors and Major Air Pollutant Sources

The BAAQMD defines sensitive receptors as facilities where sensitive population groups (children, elderly, acutely and/or chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The homes along Oak Canyon Drive, Oak Canyon Place, and Capitancillos Drive, would be the closest sensitive receptors to the site. There are no hospitals near the site and the nearest school is Guadalupe School, located across Coleman Road, approximately 0.3 miles to the southwest of the project site.

TABLE 4. POLLUTANT CHARACTERISTICS

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen). Often called photochemical smog.	• Eye irritation • Respiratory function impairment.	The major sources of ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon Monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	• Impairment of oxygen transport in the bloodstream. • Aggravation of cardiovascular disease. • Fatigue, headache, confusion, and dizziness. • Can be fatal in the case of very high concentrations.	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	• Increased risk of acute and chronic respiratory disease.	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur Dioxide is a colorless gas with a pungent, irritating odor.	• Aggravation of chronic obstruction lung disease. • Increased risk of acute and chronic respiratory disease.	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM-10	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	• Aggravation of chronic disease and heart/lung disease symptoms.	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

2. Air Quality Impacts

Thresholds of Significance

For the purposes of this project, an air quality impact is considered significant if the project would:

- violate an ambient air quality standard or contribute substantially to an existing or projected air quality violation; or
- contribute to carbon monoxide (CO) concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over eight hours or 20 ppm for one hour; or
- generate criteria air pollutant emissions in excess of the BAAQMD standards for "substantial" emissions. These thresholds are 80 pounds/day for PM_{10}, 80 pounds per day for nitrogen oxides (NOx), and 80 pounds/day for Reactive Organic Gases (ROGs); or
- expose sensitive receptors to substantial levels of toxic air contaminants.

Long-Term Impacts

The project would not generate emissions of air pollutants. Further, as discussed in Section B, *Transportation*, the project would not typically generate traffic. Therefore, long-term air quality impacts would not occur if the project is implemented.

♦ **The proposed project would not result in long-term air quality impacts. (No Impact)**

Construction Impacts

Construction activities such as earthmoving, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed surfaces would generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality. Construction activities are also a source of organic gas emissions. These activities would affect local air quality during project construction. The dry, windy climate of the area creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

The local effects of construction activities would include increased dustfall and locally elevated levels of PM_{10} downwind of construction activity. Depending on the weather, soil conditions, the amount of activity taking place and nature of dust control efforts, these impacts could extend downwind from the site, affecting neighboring residential properties.

The BAAQMD does not require that construction emissions be quantified when a project is analyzed (BAAQMD CEQA Guidelines, December 1999). However, emissions generated by construction-related projects in the BAAQMD are considered significant unless the project incorporates all feasible PM_{10} control measures required by the BAAQMD. The BAAQMD urges Lead Agencies to consider the size of the construction area and nature of the activities that will occur, and require the implementation of all feasible control measures. For this project, all feasible control measures, which are consistent with SCVWD BMPs (Appendix B), are included in the project, and described below. These BMPs will reduce potential construction-related impacts to a less than significant level.

Mercury-Containing Soils

Sampling and analysis conducted for the proposed project has shown that soil on the Los Capitancillos site contain elevated levels of mercury. Based on the results of the sampling programs described in Section H, *Hazardous Materials*, mercury concentrations in the soil on the site ranged from 0.17 to 15 mg/kg. The mercury levels were higher at the surface (average 3.85 mg/kg) than at depth, although not in each boring. Therefore, mercury content of soils is below the 23 mg/kg hazardous materials preliminary remediation goals (PRGs) set by the U.S. Environmental Protection Agency for residential areas.

Given the above- described level of mercury in the soils on the project site, the relevant question is whether or not any mercury that becomes airborne during construction would be considered hazardous and therefore a significant impact. This issue was quantified and analyzed for the adjacent Guadalupe Creek Restoration Project. That analysis conservatively assumed that the concentration of mercury in the soil was as high as 20 mg/kg. Under that conservative assumption, the analysis calculated that the average ambient air concentration of mercury generated by construction activities would be 0.024 micrograms per cubic meter, which is substantially less than EPA's ambient air PRG for mercury of 0.3 micrograms per cubic meter established for residential areas. This estimated concentration is also well below the permissible exposure level for airborne inorganic mercury compounds (0.1 mg/m^3) established by OSHA (SCVWD, 2000).

The concentration of mercury in soils on the Los Capitancillos project site is less than the 20 mg/kg assumed in the above-referenced Guadalupe Creek analysis. Since the Guadalupe Creek analysis concluded that airborne concentrations of mercury would not exceed applicable thresholds, and because lower levels of mercury in soil will result in lower levels of airborne mercury under similar construction conditions, it is concluded that any airborne mercury associated with the proposed project would result in a less than significant impact.

The SCVWD will implement project BMPs, as described below, that incorporate the BAAQMD's guidelines for PM_{10} control to avoid or further reduce emissions of mercury-contaminated dust.

- **With the implementation of BMPs included as part of the project, potentially significant construction-related air quality impacts within the project area would be reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

3. Mitigation and Avoidance Measures for Air Quality Impacts

The following measures (BMPs) are included in the project to avoid or reduce construction-related air quality impacts to a less than significant level.

Measures Included in the Project

The following Best Management Practices are included in the project to avoid or reduce construction- related air emissions. These mitigation measures are contained in the BAAQMD's Feasible Control Measures for PM_{10} Emissions from Soil Removal Activities (BAAQMD, 1999):

- To ensure that worker safety is protected during project construction, the SCVWD will require the selected contractor to prepare a Site-Specific Health and Safety Plan (SSHSP) to identify, evaluate, and control safety and health hazards and provide for emergency response.
- All active construction sites will be watered at least twice daily. Watering should be conducted frequently enough to prevent the generation of visible dust emissions.
- All trucks hauling soil or other loose materials will be covered or will be required to maintain at least two feet of freeboard.
- All upaved access roads, parking or staging areas will be watered three times daily, or will be stabilized using nontoxic soil stabilizers.
- Apply nontoxic soil stabilitzers to inactive construction areas (previously graded areas inactive for 10 days or more).
- Limit vehicle traffic speeds on unpaved roads to 15 mph.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Enclose, cover, water twice daily, or apply nontoxic soil stabilizers to exposed stockpiles.
- Streets will be swept daily with water sweepers if visible soil material is carried onto adjacent public streets.
- Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. The person shall respond to complaints and take corrective action within 48 hours. The phone number of the Bay Area Air Quality Management District shall also be visible.

The use of watering alone for dust control is estimated to reduce dust emissions by about 50 percent. The combined effect of the above measures, including the use of a dust suppressant, would have a control efficiency of 70 to 80 percent, which would be expected to reduce construction related air quality impacts to a less than significant level.

Conclusion: **With the implementation of the BMPs described above as part of the project, potentially significant construction-related air quality impacts would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

D. NOISE

1. Existing Setting

Background Information

Several factors affect noise, as it is perceived by the human ear, including the actual level of sound (or noise), the period of exposure to the sound, the frequencies involved, and the fluctuation in the noise levels during the exposure. Noise intensity is customarily measured on a "decibel" scale, which serves as an index of loudness. Because the human ear cannot perceive all pitches and frequencies equally well, measured sound levels are adjusted or weighted to correspond to human hearing. This adjustment is known as the "A-weighted" decibel, or dBA. On this scale, noise at zero decibels is inaudible, while noise at 120-140 decibels is painful and may cause hearing damage with all but a brief exposure. These extremes are not encountered in commonplace environments.

The primary source of noise within the City of San Jose is traffic noise. Noise within the project area is generated primarily by Coleman Road, adjacent to the project site Existing noise levels were monitored by SCVWD staff at the intersection of Oak Canyon Place and Capitancillos Drive on May 7, 2002 from 4:30 p.m. to 6:00 p.m. Noise levels ranged from approximately 43 decibels when no cars were passing to 85 decibels due to the pass-by of a motorcycle.

The City of San Jose 2020 General Plan describes noise levels in terms of the Day-Night Level (Ldn) which includes a kind of penalty for noise occurring during the hours between 10 PM and 7 AM.

2. Noise Impacts

Thresholds of Significance

For the purposes of this project, a noise impact is considered significant if the project would result in:

- exposure of persons to or generation of noise levels in excess of standards in the City's general plan, or applicable standards of other agencies; or
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels; or
- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- expose people to a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Long-Term Impacts

Noise levels generated by activity within the project site would be minimal. The only potential noise source would be the sound of people talking on the pathway surrounding the wetland. The sound of people talking or laughing could be expected to generate instantaneous sound levels of about 50-55 dBA. The nearest residences would be located approximately 140 feet from the proposed access roadway/path. Given the elevated ambient noise levels within the project site, no noise would be audible from the use of the project site.

A common noise threshold for substantial long-term noise generated by a project is to determine if the average noise level (L_{eq}) generated by the project exceeds the background (L_{90}) noise level by more than 5 dBA. Given the relatively high background noise levels in the area due to its proximity to a collector street (Coleman Road), it is unlikely that even at the closest locations, activity within the site would be noticeable. At most, an occasional shout or other noise might be noticeable at the closest homes. In addition, the site is currently used as an open space area unofficially by the surrounding neighborhood, and the introduction of limited, authorized public access, would not change noise levels on the site significantly. For the vast majority of residences in the area, it is unlikely that any noise from the site would be heard. Therefore, the completed project would result in less than significant noise impacts to surrounding land uses.

- **The proposed project would not result in significant noise impacts to the surrounding neighborhood due to the potential introduction of limited, authorized public access onto the site. (Less than Significant Impact)**

Construction Noise Impacts

During construction, noise levels may be temporarily elevated outside homes nearest to the project, particularly those along Oak Canyon Place, Oak Canyon Drive, and Capitancillos Drive. Noise levels as high as 80 dBA could occur outside of the homes during the excavation of the proposed pond, when truck traffic would travel along the streets. This truck traffic along the aforementioned streets, while temporary, could result in a significant impact to the surrounding neighborhood.

Construction of the various components of the site would also require the use of heavy equipment. Construction equipment typically generates noise levels in the range of 70 to 90 dBA at a distance of 50 feet. Noise levels decrease by six decibels for every doubling of the distance of separation from such localized sources. The nearest homes are located along Oak Canyon Place and Capitancillos Drive, approximately 100 feet from the westernmost edge of the project site, where grading would occur. Therefore, noise levels from construction equipment would be between 64 and 84 dBA at approximately six homes. Though the single data sample referenced earlier suggests that this noise level falls within existing noise levels in the neighborhood at peak use hours, these construction-related noise levels would be clearly audible when compared to existing noise levels. Due to the short-term nature of these impacts, however, they have been determined to be less than significant.

Nonetheless, the following Best Management Practices (BMPs) have been included in the project to avoid or further reduce these impacts, particularly by limiting construction to weekdays during 7:00 a.m. to 5:00 p.m.

- Advance notification shall be given to residents within 300 feet of the project site, alerting them of planned construction activities, including the overall duration of the various construction stages. The notification would occur no later than 48 hours prior to the start of construction at a given location and would include information so residents can contact a construction liaison should they have any questions or concerns.
- Construction operations will comply with all City ordinances, and would be restricted to working hours (7:00 a.m. to 5:00 p.m.), Monday through Friday, with no construction activities on weekends or holidays. Extending weekday hours and working weekends may be necessary for short periods to complete some aspects of the project; however, these periods will be limited. The transportation of imported and exported materials will occur during non-peak traffic commute hours (9:00 a.m. to 4:00 p.m., Monday through Friday).
- Equipment would be properly maintained and all available noise suppression devices, including mufflers, will be used.
- Staging of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses would be avoided whenever feasible.

- ♦ **The proposed project would not result in significant construction-related noise impacts. (Less than Significant Impact)**

3. Mitigation and Avoidance Measures for Noise Impacts

Construction-related noise impacts were found to be less than significant. Nonetheless, measures have been included in the project that would further avoid or reduce these impacts. These measures are described in the preceding section.

E. GEOLOGY

The following information is based on a Preliminary Geotechnical Report prepared for the project site by *Parikh Consultants, Inc.* in December 2000. A copy of this report can be found in Appendix C of this EIR. The geotechnical report included a review of available soils and geologic literature pertaining to the site, and collecting soil materials on the site for laboratory testing.

1. Existing Setting

The project site is located in the southeastern portion of the San Francisco Bay area in the Coast Range of California. The Coast Range forms a nearly continuous topographic barrier between the California coastline and the San Joaquin Valley. The project site, adjacent to Guadalupe Creek, is within a broad alluvial plain situated between the northern ridges of the Santa Cruz Mountains to the south and the lower basin of the Santa Clara Valley to the north.

The headwaters of Guadalupe Creek originate in steep hill slopes (about 35 percent slopes with a maximum elevation of 3,486 feet) where soil is comprised of erodible and fractured sedimentary rocks of the Franciscan Complex. Guadalupe Creek emerges from this mountainous zone onto the alluvial plain, comprised of late Pleistocene alluvium, through a gap between the Blossom Hill and Capitancillos ridges. In a general sense, the project site is located in a transitional geomorphic zone where stream gradient and sediment grain size decrease in the downstream direction.

Soils

Based on the boring and pit data collected by *Parikh Consultants*, the site is generally underlain by a layer of very stiff to hard, sandy lean clay with gravel, sandy silt and silty sand, having a thickness of 1.5 to 3.5 feet. This layer is underlain by weakly cemented, native gravels and cobbles, containing sand and clay. These deposits are medium dense to very dense, extending throughout the explored depth of 31 feet. They typically contain well graded to poorly graded gravels and cobbles with sand, clay, and silt.

Artificial fill was encountered during subsurface testing, at the northeast corner of the project site. Apparent "buried debris" was also found in the same area of the site by *H. T. Harvey and Associates*, consisting of broken glass, asphalt, concrete, bricks, and imported soil (July 2000).

Seismic Setting

The project site is located within the seismically active San Francisco Bay region. The Uniform Building Code designates the entire South Bay as Seismic Activity Zone 4, the most seismically active zone in the United States. The faults in the region are capable of generating earthquakes of at least 7.0 in magnitude, therefore, it can be expected that earthquakes could produce very strong ground shaking at the subject site during the life of the project.

Significant earthquakes that have occurred in this area are generally associated with crustal movements along well-defined active fault zones. Faults in the vicinity of the site with a moderate to high potential for producing strong shaking at the site include the San Andreas Fault, the Calaveras Fault, and the Hayward and the Monte Vista Fault systems, as shown on Figure 9. All are 8 miles or more from the project area, but an earthquake on any of these faults could produce severe ground shaking in the project area. Based on the California Seismic Hazard Map by Caltrans, the governing fault is the Monte Vista Fault.

Seismic Hazards

Potential seismic hazards may arise from three sources: surface fault rupture, ground shaking, and liquefaction. Since no active faults pass through the site, the potential for fault rupture is relatively low. Based on available geological and seismic data, the possibility of the site experiencing strong ground shaking may be considered high.

Liquefaction is a phenomenon where saturated, cohensionless soils are subject to a temporary, yet essentially total, loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Submerged cohesionless sand and silts of low, relative density are the type of soils that usually are susceptible to liquefaction. Based on the Geotechnical Investigation prepared for the project, the majority of the site subsurface soils do not meet these criteria. Therefore, liquefaction potential of the project site is low.

2. Geology and Soils Impacts

Thresholds of Significance

For the purposes of this EIR, a geology and soils impact is considered significant if the project would:

- expose people or structures to potential substantial adverse effects including the risk of loss, injury or death involving rupture of a known earthquake fault, strong seismic ground shaking, and seismic related ground failure (including liquefaction, landslides, or expansive soil); or
- be located on a site with geologic features which pose a substantial hazard to property and/or human life (i.e., an active fault, active landslide etc.); or
- would expose people or property to major geologic hazards that cannot be mitigated through the use of standard engineering design and seismic safety design techniques; or
- be located on expansive soil, as defined by the Uniform Building Code (1997) that would create substantial risks to life or property; or
- trigger or accelerate geologic processes such as land-sliding or erosion; or
- cause displacements, compaction, exposure, or over covering of soil such that project development poses a reasonable probability of damage, endangerment, or other hazard to on- or off-site buildings or structures by ground or soil failure.

Geologic and Seismic Impacts

The proposed project is the construction of a wetland, with inlet and outlet structures and an optional public access component adjacent to Guadalupe Creek. The only excavation required for the project would be for the construction of the wetland. Therefore, the project would not result in significant geologic impacts. The proposed wetland would have very gradual slopes, as previously described. Water within the wetland would remain in the wetland in the event of a seismic episode. In addition, the project does not include the construction of any structures, no faults cross the project site, and the potential for liquefaction on the site is low. Therefore, the project would not result in impacts associated with seismic events.

- **The project contains no structures, is not located on any fault lines, and has a low liquefaction potential. (Less Than Significant Impact)**

Slope Stability and Settlement

Approximately four to six foot deep excavations with side slopes of about 2:1 (Horizontal: Vertical) are anticipated during wetland basin construction, as shown on Figure 5. Based on the slope stability evaluation conducted for the side slopes, as part of this investigation, it was determined that the proposed side slopes of the wetland basin would be stable after project completion.

The soil conditions at the site are generally dense gravel and cobbles with sand and silts. Settlements due to construction of the wetland basin were estimated to be negligible for the nature of this project. A wave height analysis was performed for the project (*PWA*, 2002), that indicates that wind fetch produced by the anticipated maximum average wind speed may disturb the proposed soil cover to a depth of 0.25 feet. Higher wind speeds may disturb the soil cover to a depth of one foot. The plantings proposed for the perimeter of the proposed wetland will protect the soil cover from potential erosion due to wind waves.

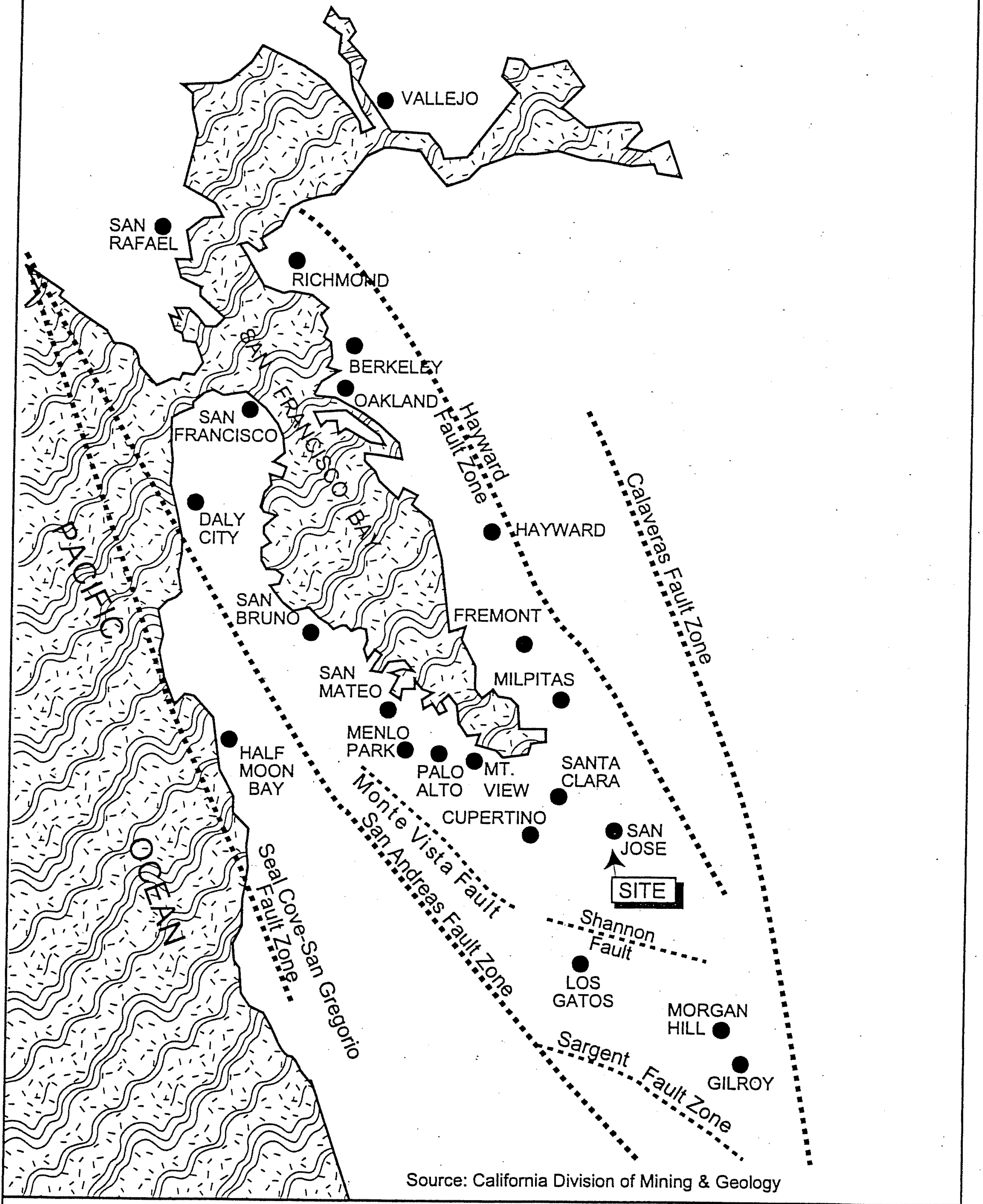
Additional erosion protection at the inlet and outlet works will be included in the final design to protect the soil cover during refilling of the wetland after the annual drawdown. The final design will include the grading of a swale at the bottom of the wetland to direct flows during refilling. This swale will be reinforced to resist erosion of the soil liner using cobbles, erosion control fabric or other suitable measures as defined during final design.

- **The slopes of the wetland basin would be constructed with gentle grades and erosion protection features, therefore, it would be stable after project completion. (Less Than Significant Impact)**

3. Mitigation and Avoidance Measures for Geologic Impacts

The project includes features as described above to ensure that geologic impacts are less than significant. No mitigation measures are required. **(Less than Significant Impact)**

Conclusion: **The proposed project would not result in significant geologic impacts. (Less Than Significant Impact)**



Source: California Division of Mining & Geology

FAULTS OF CONCERN IN THE SAN FRANCISCO BAY AREA FIGURE 9

F. HYDROLOGY AND FLOODING

The following information is based on a Hydrology Report prepared by *Philip Williams and Associates Ltd.* (2002), contained in Appendix D of this EIR. This report includes a review of previous studies in the project area and hydrologic modeling of surface water flows in Guadalupe Creek. Additional information on the hydrological conditions of the area is provided in the Geotechnical Report for the project.

1. Existing Setting

The project site is located adjacent to and to the south of Guadalupe Creek. The site is within a broad alluvial plain situated between the northern ridges of the Santa Cruz Mountains to the south and the lower basin of the Santa Clara Valley to the north. The headwaters of the creek are located in the Santa Cruz Mountains upstream of the Guadalupe Reservoir, which manages discharge from the upper six square miles of the watershed. The Masson Dam, approximately 800 feet upstream from the project site, detains water during the summer months to supply the Los Alamitos Percolation Ponds located across Guadalupe Creek from the project site.

The Guadalupe Creek drainage basin is approximately 15.2 square miles, of which approximately 90 percent is located in the Santa Cruz Mountains and approximately 10 percent is located in the Santa Clara Valley.[6] The drainage basin is largely undeveloped in the steep mountainous areas and heavily developed and populated in the Santa Clara Valley. The creek ultimately converges with the Los Alamitos Creek, becoming the Guadalupe River near the Almaden Expressway, approximately 1.25 miles to the east of the project site.

The Guadalupe Creek basin experiences a Mediterranean climate typically characterized by moist, mild winters and dry summers. Average temperatures in the summertime range from 55 to 82 degrees, while average wintertime temperature ranges from 41 to 62 degrees. Mean annual precipitation in the project area is 16 inches and 85 percent of measurable precipitation occurs between November and April.

Hydrology and Flooding

As part of the analysis for the Guadalupe Creek Restoration Project, hydraulic conditions, including flow depth and velocity profiles for Guadalupe Creek, were evaluated using the HEC-RAS computer program. The model results indicated that flood frequencies of five years and less are confined to the channel without backwater effects from bridges or other flow constricting obstructions. In contrast, flood frequencies of 10 years or more tend to overtop the channel upstream of Masson Dam, flow over the floodplain adjacent to Capitancillos Drive and re-enter the creek approximately 200 feet downstream of Masson Dam. The 50 and 100-year estimated floods extended onto higher benches within the channel, spreading out onto the broader floodplain, including the project site. The Flood

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[6] SCVWD, *Guadalupe Creek Restoration Project Environmental Impact Report and Statement*, 2000.

Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency show boundaries for the 100-year flood that are consistent with the results presented above.[7]

As part of the Guadalupe Creek Restoration Project, the SCVWD has modified the channel of Guadalupe Creek in order to increase channel flow capacity and reduce sediment transport. A broad, lowered floodplain surface was graded as part of the Guadalupe Creek project, along the stream on the northern edge of the project site. A graded area was also placed between the creek and the project site, to prevent 100-year flood flows from entering the majority of the Los Capitancillos project site.

Site Drainage

The project site currently drains into a well-vegetated ditch located at the eastern boundary of the site that runs southwest to northeast along Coleman Avenue and empties into Guadalupe Creek. This ditch is believed to be either a paleochannel, or an irrigation ditch, excavated for water supply when the land was used for agricultural purposes. All stormwater runoff generated by the surrounding developed areas is transported to Guadalupe Creek by way of the City of San Jose's stormwater system.

Groundwater

Parikh Consultants, Inc. conducted field studies to determine the general subsurface conditions at the project site (Appendix C). Three monitoring wells were constructed to monitor groundwater levels on the site. Groundwater was encountered in all borings at approximately nine feet below ground surface. Groundwater depths were subsequently measured on a monthly basis between June 2000 and July 2001, and ranged from 7.9 to 10.6 feet below ground surface (bgs) with an average of 9.2 feet bgs. The measured groundwater elevations roughly coincided with water levels in Guadalupe Creek. These measurements were consistent with measurements collected in the vicinity of the project site for the Guadalupe Creek Restoration Project (SCVWD 2000). Those studies also indicate that groundwater is flowing away from Guadalupe Creek, demonstrating that Guadalupe Creek is providing recharge to the groundwater table in the vicinity of the project site. It is anticipated that groundwater levels on the project site fluctuate with the seasons, changes in creek, surface, subsurface flows, and ground surface run-off.

Water Quality

Upstream of the project area, Guadalupe Creek flows through undeveloped mountainous areas, open space, rural areas, and medium to high-density residential developments. Therefore, it is difficult to determine potential sources for water quality impacts to the creek system. The creek is downstream of an area of past mercury mining, as previously described. Therefore, mercury is the mineral of greatest concern, especially in the form of methyl mercury, which is readily absorbed by plants and fish and other wildlife. While no routine water quality monitoring is presently performed on Guadalupe Creek, testing was done as part of the analysis for the Guadalupe Creek Restoration Project.

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[7] FIRM Map Panels 060349 0042 and 0047, Revised August 17, 1998.

Eight samples were taken from the creek between the Masson Dam and Almaden Expressway. This sampling indicated that mercury methylation occurs upstream of and adjacent to the project site under existing conditions.

Water Temperatures

A preliminary thermal analysis of the potential thermal impact of the wetland on the aquatic conditions in Guadalupe Creek is included within Appendix D. The potential for impacts during high creek flows (primarily December – March) was discounted, as direct outflows from the wetland to the creek would be very rare and extremely small compared to the high creek flow conditions that would exist during such storm events. In addition, creek and wetland temperatures would both be relatively low during storm events, further reducing the potential for any thermal impact from the wetland under these conditions. Thus, the thermal analysis focused on the potential for percolated water from the wetland to flow to the underlying groundwater reservoir and then flow to the creek as subsurface flow.

The preliminary thermal analysis assessed a potential period of impact from seepage, during the September drawdown of the wetland. Conservative assumptions based on historic data for meteorological conditions were used in the model to predict temperatures of water in the wetland at the beginning of the drawdown. The model very conservatively assumed that 50% of the water leaving the wetland during the annual drawdown would flow to the creek without cooling. This is a much warmer and greater level of seepage flow from the wetland than is actually expected. The creek flow assumed was representative of its annual minimum, and inflowing creek temperatures tested fell within a range representative of historic conditions (1996-2000) for September. A simple spreadsheet-based mixing model was developed to estimate the effect of seepage water on creek temperatures.

This conservative analysis estimated a potential change in September creek temperatures of approximately 0.1 – 0.5 degrees F (shifting creek temperatures of 55.4 – 65.7 degrees F to 55.9 to 65.8 degrees F) via seepage from the Los Capitancillos wetland, which does not represent a significant increase the Guadalupe Creek temperature. The range of average temperatures recorded in September from 1996-2000 (55.4 – 65.7 degrees F) represents the existing condition for the purpose of this analysis. Both the existing and potential temperature ranges fall within the Optimal to Suboptimal range for the life stages of salmonids present in the creek in September. Potential impacts to salmonids are discussed in Section G, *Biological Resources*.

2. Hydrologic Impacts

Thresholds of Significance

For the purposes of this project, a hydrology and flooding impact is considered significant if the project would:

- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on- or –off-site; or
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted water; or
- place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; or
- place structures which would impede or redirect flood flows; or
- degrade existing water resources beyond existing conditions or acceptable state water quality standards; or
- violate any water quality standards or waste discharge requirements; or
- expose people or structures to a significant risk of loss, injury, or death involving flooding; or
- expose people or structures to inundation by seiche, tsunami, or mudflow.

Hydrology and Flooding

As previously described, the project site is located outside the 100-year floodplain of Guadalupe Creek. As a part of the construction of the Guadalupe Creek Restoration Project, the floodplain area to the north of the site between the creek and the project site, has been lowered to accommodate more flood flows. In addition, the creek channel has been modified to accommodate flood flows in the project area. As a result, neither the elimination of the project site from the floodplain, nor the release of a small amount of water from the site, would result in flooding downstream.

The proposed outlet channel and infiltration pools are proposed to be constructed within and adjacent to the existing paleochannel on the project site. After project construction, the upland areas of the site surrounding the proposed wetland would be graded to drain to the outlet swale area during significant storm events.

Parikh Consultants, Inc. prepared a seepage analysis for the proposed project (Appendix M of the Engineers Report) that indicates the wetland could cause local elevation of the groundwater table up to six feet over existing groundwater levels in the immediate vicinity of the wetland. This analysis also indicates that this effect declines rapidly with distance from the wetland, and at approximately 120 feet from the wetland, there is no effect on the groundwater table. Since the wetland would be located over 220 feet from Coleman Road and over 250 feet from the nearest home on Oak Canyon Place, this potential elevation of the groundwater table would not result in impacts to surrounding land uses.

- **The proposed project would not change the amount or direction of stormwater runoff from the site when compared to the existing condition. While the groundwater level on the project site may rise as a result of the project, no impacts to surrounding land uses would occur. (Less than Significant Impact)**

Water Quality

Long-term Impacts

Long-term effects on surface water quality from the site could occur after project construction due to waters from the wetland entering the creek during significant storm events (50-year event or greater, 2% of probability of occurrence in any year). The outlet flow from the wetland during a 100-year storm (which would be greater than during the 50-year event) would be less than one tenth of one percent of the flow in the creek. Therefore, the long-term surface water quality impacts of the project from direct outflows would be less than significant.

The system is designed to allow the pond to drain, under routine operations, entirely through percolation to groundwater, allowing natural filtering and diffusion of the wetland outflow prior to reaching the creek. During the annual drawdown, the rate of runoff released to the outlet swale and infiltration pools would be extremely small (approximately 0.15 cfs during a 28-day period).[8] As discussed in Section G, *Biological Resources*, no significant thermal effects are expected from this very minor flow from the wetland, into the aquifer, and then potentially, to the creek. The presence of mercury in the existing soils on the site would not affect water quality since, as described in Section H, *Hazardous Materials*, the potential for mercury to migrate into the wetland is extremely low. Therefore, the project would not result in significant long-term water quality impacts.

Construction-Related Impacts

The construction of the proposed creek trail could result in non-point source pollution from grading and the use of construction equipment on the project site. Excavation of the wetland basin may cause sedimentation impacts to the creek. Therefore, the project may result in construction-related impacts to water quality within Guadalupe Creek. However, BMPs are included in the project to avoid or reduce these potentially significant impacts to a less than significant level. In addition, the project includes other measures that meet the regulatory requirements associated with water quality impacts.

- **With implementation of the BMPs and measures, included as part of the project, potentially significant construction-related water quality impacts would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

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[8] Betty Andrews, Principal, *PWA*, personal communication, April 2002.

3. Mitigation and Avoidance Measures for Hydrology Impacts

The following measures are included in the project to avoid or reduce potentially significant construction-related water quality impacts to a less than significant level.

Measures Included in the Project

- The project would conform to the requirements of the General NPDES Construction Activity Stormwater Permit administered by the Regional Water Quality Control Board. If necessary, prior to construction grading, the SCVWD would file a Notice of Intent (NOI) to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures that would be included in the project to minimize and control construction and post-construction runoff. The following measures would be included in the SWPPP:
    - Preclude non-storm water discharges to the storm water system.
    - Perform monitoring of discharges to the storm water system.
    - Effective, site-specific SCVWD Best Management Practices, as described in Appendix B, for erosion and sediment control during the construction and post-construction periods.
    - Coverage of soil, equipment, and supplies that could contribute non-visible pollution prior to rainfall events or perform monitoring of runoff.

- When the construction phase is complete, if necessary, a Notice of Termination (NOT) for the General Permit for Construction would be filed with the Regional Water Quality Control Board and the SCVWD by the contractor. The NOT would document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction stormwater management plan is in place as described in the SWPPP for the site.

- The project's grading plan would conform to the drainage and erosion control standards adopted by the City of San Jose and the SCVWD. The following specific measures, or their equivalent, would be implemented to prevent storm water pollution and minimize potential sedimentation during construction:
    - restricting grading to the dry season (April - October). If this is not possible, the use of Best Management Practices for wet season erosion control would be implemented, including:
        - ➢ damp sweeping;
        - ➢ using silt fencing to retain sediment on the project site;
        - ➢ providing temporary cover of disturbed surfaces to help control erosion during construction;
        - ➢ providing permanent cover to stabilize the disturbed surfaces after construction has been completed; and
        - ➢ street sweeping to remove post construction soil buildup on local streets.

- As part of the mitigation for post-construction runoff impacts, the project would implement regular maintenance activities (*i.e.,* damp sweeping, cleaning storm water inlets, litter control) at the site to prevent soil, grease, and litter from accumulating on the Project site and contaminating surface runoff.

- The site would also be required to comply with the City of San Jose's, SCVWD's, and regional post-construction storm water runoff requirements and applicable water quality plans. Measures such as storm drain inlet filters (oil/water filter, fossil filter, vegetative swales, etc.) would be used to limit contamination of urban runoff, as necessary.

Conclusion: **With the implementation of the measures described above as part of the project, potentially significant construction-related water quality impacts would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

G. BIOLOGICAL RESOURCES

The following information is based on a Biological Resources Report completed in March 2002 by *H.T. Harvey & Associates, Ecological Consultants* (Appendix E). The study is based on literature and database reviews, and reconnaissance-level surveys to determine if sensitive plants or animals would be affected by construction of the project.

1. Existing Setting

The Los Capitancillos Freshwater Wetland Mitigation site is located on a relatively level floodplain terrace adjacent to Guadalupe Creek. Coleman Road and Oak Canyon Place border the site to the south. Further south, across Coleman Road, an urban residential neighborhood now covers the historically wider floodplain. The project boundary is defined by the limits of proposed construction.

Biotic Habitats of the Study Area

Only ruderal habitat occurs on the entire 12.3-acre site. This habitat can be regarded as fragmented considering the surrounding urban setting, and some has been modified by the adjacent Guadalupe Creek Restoration Project.

Ruderal Habitat

Vegetation. Approximately 12.3 acres of ruderal habitat occurs within the site. This area probably once consisted of non-native grassland habitat but is currently overrun with noxious ruderal weeds. The predominance of ruderal species is due to repeated soil disturbance. For example, the site had been subject to annual disking by the SCVWD up until 1998, and a 50-foot wide firebreak surrounding the site continues to be disked annually. A shelf along the southern perimeter of the site appears to have been created in the recent past, and is comprised primarily of alluvial material. A graded area has also been installed along the northern boundary of the site as part of the Guadalupe Creek Restoration Project, as previously described.

The site is dominated by non-native species such as wild oats, and yellow star thistle, an invasive, noxious weed. Yellow star-thistle dominates the shelf area to the south and the fire break area. Other common species include fennel, and wild lettuce. Species such as ripgut brome, milk thistle, wild radish, and black mustard also dominate the site at various times of the year.

Various scattered trees also occupy the ruderal habitat of the site, most of which are remnants of a former riparian woodland setting. These trees include valley oak, blue oak, coast live oak, and blue elderberry. Poison oak forms a brushy understory beneath some of these trees. Several northern California black walnut trees occur on the site and are likely remnants from previous agricultural activities.

Finally, approximately 600 square feet of CDFG jurisdictional habitat occurs on site, below the top-of-bank of Guadalupe Creek. This area is located in the eastern end of the site and formerly consisted of riparian scrub habitat that was cleared in the recent past. Regrowth in this area would likely result in ruderal habitat characterized by poison hemlock, milk thistle, and annual grasses, until the willows and Himalayan blackberry recolonize adjacent to this clearing. Therefore, this cleared area was classified as ruderal habitat.

Wildlife. The ruderal habitat supports a variety of wildlife species. Repeated disking of the site prior to 1998; however, has decreased habitat quality for burrowing and terrestrial organisms. Wildlife present in this habitat includes amphibians and reptiles such as the western toad, western fence lizard, and gopher snake. Bird species present include common species such as the American Kestrel, Mourning Dove, Anna's Hummingbird, Northern Flicker, Black Phoebe, Western Scrub jay, Northern Mockingbird, California Towhee, and the House Finch. The site also provides habitat for grassland-associated species tolerant of disturbed habitats such as the Savannah Sparrow, Western Meadowlark, Lesser Goldfinch, and the American Goldfinch. Mammals present are typical of ruderal habitats including the desert cottontail, Botta's pocket gopher, California vole, coyote, raccoon, striped skunk, house cat, and the black-tailed deer.

Special Status Plant and Wildlife Species

Special status plants and animals are those species listed under the State and Federal Endangered Species Acts, plants listed by the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California*, and animals designated as Species of Special concern by the California Department of Fish and Game.

Biologists from *H.T. Harvey & Associates* conducted reconnaissance-level field surveys on January 3, September 26, and December 26, 2001. The purpose of these surveys were to identify and map biotic habitats, determine if potentially regulated habitats and biological resources were present, and assess the suitability of the site to support special-status plant and animal species. Habitats were mapped onto a scaled aerial photograph of the site and a topographic site map was also used to assist with mapping of California Department of Fish and Game (CDFG) jurisdictional habitat.

Prior to the site survey, information concerning the known distribution of threatened, endangered, or other special-status plant and animal species that may occur in the area was collected from several sources and reviewed by *H.T. Harvey & Associates'* biologists. The sources included the California Department of Fish & Game's (CDFG) California Natural Diversity Database (CNDDB 2001), and miscellaneous information available through the U.S. Fish and Wildlife Service (USFWS), CDFG, and technical publications.

A query of the California Natural Diversity Database (CNDDB 2001) was performed to identify special-status plant and animal species potentially occurring in the project vicinity. All species identified were then cross-referenced with the most recent state and federal listing update according to the California Department of Fish and Game to verify their status and identify recently listed species.

Special Status Plant Species

A total of 30 special status plant species were identified in the CNDDB and California Native Plant Society Inventory queries of which only one, Gairdner's yampah, could potentially occur on the site. This species is presumed absent from the site since it was not detected during recent surveys coinciding with its blooming period. In addition, the Northern California black walnut tree species found on site is considered by the California Native Plant Society to be a special-status tree species with only three native stands known to occur. The walnut trees on site appear to be remnants of a former walnut orchard and are not part of the three known native stands. This species; however, is now widely naturalized in California due primarily to agricultural activities. Therefore, they are not considered sensitive in this assessment. Finally, the only sensitive habitat identified in the CNDDB query was serpentine bunchgrass habitat, which is absent from the site.

The remaining 29 species were dismissed as potentially occurring on site for one or more of the following reasons: the regular disturbance (disking) on the site, absence of suitable microhabitats (mostly serpentine substrates), extinction within Santa Clara County, the most recent occurrences are historic, or they are considered extinct. Therefore, no further surveys are warranted for these species.

Special Status Animal Species

The special status animal species that occur on and in the vicinity of the site are described below. Table 5 presents the list of special-status wildlife species and provides an overview of the potential for these species to occur on the project site.

Thirty-seven special status animal species were identified in the CNDDB query, during field surveys, or from a database of Santa Clara County bird records; however many of these species are not expected to occur on the project site, nor is suitable habitat present.

Expanded species descriptions are provided below for those species for which potentially suitable breeding habitat occurs on the site. In addition, expanded descriptions are also provided for those special-status species that are not expected to occur on the site, but occur adjacent to the site on Guadalupe Creek or in the upper Guadalupe Creek watershed and for which the agencies have expressed particular concern.

Steelhead Rainbow Trout Central California Coast Ecologically Significant Unit (ESU). Federal listing status: Threatened; State listing status: none. The steelhead rainbow trout is an anadromous form of rainbow trout (i.e., it migrates upstream from the ocean/bay to spawn). Young steelhead typically remain in freshwater streams one to two years before migrating to the ocean. They grow rapidly for one to two years in the ocean before returning to freshwater streams to spawn. Steelhead do not necessarily die after spawning as salmon do, and may survive to spawn two or three seasons. Steelhead are generally found in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover, but are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat for these trout. Juvenile and adult steelhead usually cannot survive in pools or streams with water temperatures above 70F. Developing embryos do not survive in water temperatures above 58F.

Steelhead rainbow trout occur in streams in the South San Francisco Bay area and this species could potentially spawn in virtually any reach of a stream offering suitable spawning habitat and lacking downstream barriers to dispersal. Information on the fine-scale distribution of steelhead rainbow trout in South San Francisco Bay streams is limited. This species is known to be present in Guadalupe Creek adjacent to the site, but is not expected to occur on the site because the entire site is above the 10-year floodplain.

California Red-Legged Frog. Federal listing status: Threatened; State listing status: Species of Special Concern. The California red-legged frog is a medium-sized frog with reddish-colored legs. This species is generally restricted to riparian habitats in California and northern Baja California. Red-legged frogs prefer deep, quiet pools (more than one meter deep) in creeks, rivers, or lakes below 4,567 feet in elevation. Habitat requirements include fresh emergent or dense riparian vegetation, especially willows adjacent to shorelines. Red-legged frogs can survive in seasonal bodies of water that are dry for short periods, if a permanent water body or dense vegetation stands are nearby.

The adults are normally active at night and breed in still water during the late winter or early spring after waters recede. Females attach eggs in a single cluster to a vegetation brace just under the surface of the water. The eggs hatch in just over a week and the resulting larvae feed on plant and animal material on the bottom of the pond. It takes at least four months for the larvae to metamorphose into juvenile frogs. Adults normally reach sexual maturity in 2 to 3 years after metamorphosis. Red-legged frogs have disappeared from about 75 percent of their historic range due to habitat loss from agriculture and urbanization and the introduction of non-native aquatic predators (e.g., non-native fishes and bullfrogs).

This species is not expected to occur at the site. SCVWD biologists recently surveyed this section of Guadalupe Creek for California red-legged frogs and none were detected. Red-legged frogs were historically recorded 1.2 miles from the site. In two other occasions they were recorded within 1.5 and 3 miles upstream, respectively. These populations; however, are considered extinct.

On the rare occasion of a high flood event, it is possible for an individual to be washed downstream from these populations into Guadalupe Creek adjacent to the site. Because of a lack of riparian vegetation on site; however, such an individual is not expected to disperse and forage onto the site from the creek, when the site is dry. Therefore, the project is not expected to adversely affect this species. Upon completion of the wetland; however, the area could be conducive to red-legged frogs, in the event of a frog being washed downstream to this area. The annual drawdown would not affect frogs, should they establish on the site since tadpoles are finished metamorphosing into adults by the fall. In addition, the drawdown would eliminate bullfrogs on the site, which prey on frogs.

Table 5. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
Federal or State Endangered or Threatened Species			
Steelhead rainbow trout Central California Coast ESU *(Oncorhynchus mykiss)*	FT	Cool streams with suitable spawning habitat and conditions allowing migration.	Known to be present in Guadalupe Creek adjacent to the site. No habitat exists on the site. Therefore, not present on the site.
California red-legged frog (*Rana aurora draytonii*)	FT, CSSC	Streams, freshwater pools and ponds with overhanging vegetation.	Marginal habitat adjacent to site in Guadalupe Creek. No adequate habitat on the site. No recent records from vicinity of the site; presumed absent.
American Peregrine Falcon *(Falco peregrinus anatum)*	SE, SP FE Delisted	Forages in many habitats; nests in cliffs, buildings, and bridges.	Observed adjacent to the site; occasional forager. No suitable breeding habitat on site.
Willow Flycatcher *(Empidonax traillii)*	SE FE *(extimus)*	Breeds in riparian habitats in mountains and southern deserts.	Uncommon migrant; those occurring on site are probably not of the listed races.
Federal or State Proposed Endangered or Threatened Species or Candidate Species			
Chinook salmon Central Valley fall-run ESU *(Oncorhynchus tshawytscha)*	FC, CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs	Not known to spawn in the South S.F. Bay historically, but could be present in Guadalupe Creek adjacent to the site. No habitat exists on the site. Therefore, not present on the site.
California Species of Special Concern			
Western pond turtle *(Clemmys marmorata)*	CSSC	Permanent or nearly permanent water in a variety of habitats.	Marginal habitat adjacent to the site. May use Guadalupe Creek as a dispersal corridor. No adequate habitat exists on the site. No recent records from vicinity of site; presumed absent
Double-crested Cormorant (*Phalachorcorax auritus*)	CSSC (rookery)	Colonial nester on coastal cliffs, offshore islands, electrical transmission towers, salt evaporator pond levees, and along interior lake margins. Feeds on fish.	Nearby resident; forages in Guadalupe Creek and Los Capitancillos Percolation Ponds. Nests within the County at Alviso salt evaporator ponds. No breeding associate with the project site.
Cooper's Hawk *(Accipiter cooperii)*	CSSC (nesting)	Nests in woodlands, forages in many habitats in winter and migration.	Observed on site primarily as a migrant and winter resident. Potentially suitable nesting habitat exists on site.
Sharp-shinned Hawk *(Accipiter striatus)*	CSSC (nesting)	Nests in woodlands, forages in many habitats in winter and migration.	Observed on site as a migrant and winter resident. No breeding records from the vicinity of the site.
Golden Eagle *(Aquila chrysaetos)*	CSSC (nesting and wintering)	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	Observed adjacent to the site as an occasional forager, primarily during the nonbreeding season. No nesting habitat on site.

Table 5. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
Northern Harrier *(Circus cyaneus)*	CSSC (nesting)	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	Marginal foraging habitat exists on and adjacent to the site. Breeding not known to occur here.
Osprey *(Pandion haliaetus)*	CSSC (nesting)	Nests in tall trees or cliffs on fresh water lakes and rivers and along seacoast; feeds on fish.	Migrant and winter resident. Observed adjacent to the site. No breeding records from the vicinity of the site.
Merlin *(Falco columbarius)*	CSSC (wintering)	Uses many habitats in winter and migration.	Observed adjacent to the site during migration and winter. Does not nest in California.
California Gull (*Larus californicus*)	CSSC (nesting colony)	Nests on lakes inland and, around San Francisco Bay in salt ponds.	Common visitor in project area, but primarily only flies over the site. No nesting habitat on site.
Burrowing Owl *(Athene cunicularia)*	CSSC (burrow sites)	Flat grasslands and ruderal habitats.	Not observed on the site. No known records on the site. No potential nesting habitat on site. Potential foraging habitat exists on site.
Vaux's Swift *(Chaetura vauxi)*	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	Observed on site regularly during migration, occasionally in large numbers a few forage on and near the site during the breeding season. Closest breeding colony is Los Gatos, CA.
Loggerhead Shrike *(Lanius ludovicianus)*	CSSC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	Observed on the site, potentially suitable nesting habitat exists on site.
California Yellow Warbler *(Dendroica petechia brewsteri)*	CSSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Common migrant in the area but sub-specific status unknown. Not known to breed at the site.
Saltmarsh Common Yellowthroat *(Geothlypis trichas sinuosa)*	CSSC	Breeds primarily in fresh and brackish marshes in tall grass, cattail, bulrush, and willows.	Breeds in cattail and bulrush in Los Capitancillos Percolation Ponds. May forage at the site. The subspecies at this location not yet determined. Upper limits of Saltmarsh Common Yellowthroat distribution along Santa Clara Valley rivers yet to be accurately determined.
Yellow-breasted Chat *(Icteria virens)*	CSSC (nesting)	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	No breeding habitat on site. Species is uncommon and very local in county. Presumed absent.
Tricolored Blackbird *(Agelaius tricolor)*	CSSC (nesting colony)	Breeds near fresh water in dense emergent vegetation.	Observed adjacent to site, primarily as a forager during winter. May breed in cattail and bulrush in Los Capitancillos Percolation Ponds.
Townsend's big-eared bat *(Plecotus townsendii)*	CSSC	Roosts in caves and mine tunnels in a variety of habitats.	Unlikely forager; no roosting habitat on site.

Table 5. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
Pallid bat *(Antrozous pallidus)*	CSSC	Forages over many habitats; roosts in buildings, rocky outcrops and rocky crevices in mines and caves.	Potential forager above open grassland; no roosting habitat.
San Francisco dusky-footed woodrat *(Neotoma fuscipes annectens)*	CSSC	Found in a variety of woodland and brushland habitats in association with hardwoods.	Suitable habitat exists in dense mixed riparian habitat adjacent to the site. No suitable breeding habitat on the site.
State Protected Species or CNPS Species			
Gairdner's yampah *(Perideridea gairdneri ssp. gairdneri)*	CNPS 1B	Moist soil of flats, meadows, stream sides, grasslands and pine forests, throughout much of California.	The site is within the known range of this species, and suitable habitat is present on site. However, no reports exist for this special-status species in the CNDDB quadrangle search area. This species has been presumed absent based on no findings during recent surveys in the June to October blooming period.
White-tailed Kite *(Elanus leucurus)*	SP (nesting)	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	Observed adjacent to site; potential breeding on and adjacent to the site.

SPECIAL STATUS SPECIES CODE DESIGNATIONS

FE = Federally listed Endangered
FT = Federally listed Threatened
SE = State listed Endangered
ST = State listed Threatened
FC = Federal Candidate. Sufficient biological information to support a proposal to list the species as Endangered or Threatened
CSSC = California Species of Special Concern
SP = State Protected Species
CNPS 1B = Plants rare, threatened, or endangered in California and elsewhere.

American Peregrine Falcon. Federal Status: Delisted, Migratory Nongame Birds of Management Concern (MNBMC); State Status: Endangered, Fully protected Species. The Peregrine Falcon occurs throughout much of the world, and is known as one of the fastest flying birds of prey. They prey almost entirely on birds, which they kill while in flight. These falcons nest on ledges and caves on steep cliffs. In California, they are known to nest along the entire coastline, the northern Coast and Cascade Ranges and the Sierra Nevada. During winter and periods of migration, they can be found throughout the state. Peregrine Falcons are most likely to be encountered in coastal or inland marsh habitats, where waterfowl and shorebirds concentrate.

A severe decline in populations of the widespread North American subspecies *F.P. anatum* began in the late 1940's. This decline was attributed to the accumulation of DDE, a metabolite of the organochlorine pesticide DDT, in aquatic food chains. When concentrated in the bodies of predatory birds such as the Peregrine Falcon, Bald Eagle, Brown Pelican, and Osprey, it led to reproductive effects such as the thinning of eggshells.

The United State Fish and Wildlife Service (USFWS) listed the American Peregrine Falcon as Endangered in 1970, as did the State of California in 1971. Recovery efforts also included the banning of DDT in North America and captive breeding programs. These efforts led the USFWS to remove the American Peregrine Falcon form the Endangered species list in 1999, though the State of California has yet to do so.

Peregrine Falcons are present in low numbers in the Santa Clara Valley, and are most abundant adjacent to San Francisco Bay. Individuals are occasionally observed near the site. They are not expected to occur at the site more than incidentally and no suitable nesting habitat exists on the site. Therefore, the project is not expected to negatively affect the American Peregrine Falcon.

Willow Flycatcher. Federal Status: None; State Status: Endangered.
Little Willow Flycatcher. Federal Status: None; State Status: Endangered.
Southwestern Willow Flycatcher. Federal Status: Endangered; State Status: None.
Willow Flycatchers were once found breeding in riparian habitats throughout much of California. Their breeding populations; however, declined precipitously due to the effects of riparian habitat loss and parasitism. The state's current breeding populations of Southwestern Willow Flycatcher are found only in high-quality riparian habitats in arid regions of southern California. Other races of willow flycatcher are common to uncommon migrants throughout most of the state, occurring in late spring and early summer on their northward migration and again in fall on the southward migration.

Willow Flycatchers probably occur in small numbers within riparian habitats adjacent to the site during migration, but these are not likely to be Southwestern Willow Flycatchers. The low population sizes of the listed race and the distance between known breeding populations and the site make it improbable that a vagrant would occur on the site. Therefore, the project is not expected to adversely affect the Willow Flycatcher.

Chinook Salmon Central Valley Fall-run Ecologically Significant Unit (ESU). Federal Status: Candidate Species; State Status: Species of Special Concern. The Chinook salmon is an anadromous species (they migrate to the ocean and come back to their native streams to breed). Adults migrate from the ocean to spawning streams from late August through October and begin spawning in beds of coarse river gravel between October and December. Adults die after spawning. After the eggs hatch, some juvenile salmon migrate downstream to the bay or ocean within a few months, while others may remain in freshwater rearing areas for up to a year. Like steelhead rainbow trout, Chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55°F. This ESU was determined to be a candidate for federal listing in September 1999.

Chinook salmon have not historically spawned in streams flowing into South San Francisco Bay. Since the mid-1980's; however, small numbers of fall-run Chinook salmon have been found in several such streams, including Coyote Creek, Los Gatos Creek, and the Guadalupe River. These fish are probably strays from Central Valley runs. Although most information produced by the NMFS (National Marine Fisheries Service) concerning Chinook salmon does not address the salmon present in South San Francisco Bay streams, NMFS considers these salmon to be part of the Central Valley fall-and late fall-run ESU.

Although not known to spawn in the South San Francisco Bay historically, small numbers of Central Valley fall-run Chinook salmon are present in the Guadalupe River, downstream of the site. No Chinook salmon have been observed in Guadalupe Creek, but downstream barriers have recently been modified to allow fish passage and they could enter Guadalupe Creek, adjacent to the project site, under ideal conditions. This species; however, is not expected to occur at the site because the entire site is outside of the 10-year floodplain and the vast majority of the site is outside the 100-year floodplain of Guadalupe Creek.

Western Pond Turtle. Federal listing status: None; State listing status: Species of Special Concern. The western pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sierra Nevada crest and deserts, and south to northern Baja, California. Pond turtles are normally found in and along riparian areas, although females, looking for nest sites, have been reported up to a mile away from water. The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites although they are extremely wary animals and often dive into the water at any perception of danger. Pond turtles have been commonly observed moving long distances to reach isolated stock ponds and other aquatic habitats. During the summer, they may estivate in leaf duff, well away from riparian areas.

Santa Clara Valley Water District biologists recently surveyed the adjacent section of Guadalupe Creek for California red-legged frogs. No western pond turtles were observed during these surveys. There are records for this species within three miles of the site. It is possible for an individual to reach Guadalupe Creek adjacent to the site on rare occasion; however, such an individual is expected to use the creek as a dispersal corridor and not expected to disperse and forage onto the site from the creek. Therefore, the project is not expected to adversely affect the western pond turtle.

Cooper's Hawk. Federal listing status: None; State listing status: Species of Special concern. The Cooper's Hawk is a large accipiter and can prey upon medium-sized birds (e.g. jays, doves, and quail) and occasionally takes small mammals and reptiles. The Cooper's Hawk prefers landscapes where wooded areas occur in patches and groves, which facilitates the ambush hunting tactics employed by this species. Breeding pairs in California prefer nest sites within dense stands of live oak woodland or riparian areas and prey heavily on young birds during the nesting season. Cooper's hawks are common in the vicinity of the site and may perch and forage in the mixed riparian habitats on or adjacent to the site. This species might breed in larger trees within oak woodland or riparian areas on or within 250 feet of the site.

Burrowing Owl. Federal listing status: None; State listing status: Species of Special Concern. The Burrowing Owl is a small, terrestrial owl of open country. Burrowing Owls favor flat, open grassland or gentle slopes and sparse shrubland ecosystems. These owls prefer annual and perennial grasslands, typically with sparse, or nonexistent, tree or shrub canopies. In California, Burrowing Owls are found in close association with California ground squirrels. Owls use ground squirrel burrows for shelter and nesting. Ground squirrels provide nesting and refuge burrows, and maintain short vegetation height, which provides the owls with foraging habitat and visual protection from avian predators. In the absence of ground squirrel populations, habitats soon become unsuitable for occupancy by owls. Burrowing Owls are semi-colonial nesters, and group size is one of the most significant factors contributing to site constancy by breeding Burrowing Owls. The nesting season, as recognized by the California Department of Fish and Game, runs from February 1 through August 31.

During multiple surveys of the site, no Burrowing Owls were observed, nor were any ground squirrel burrows. There are no records of Burrowing Owls using the site or sites in the immediate area. Based on these facts, the site is not considered nesting habitat for the Burrowing Owl; however, the site is currently flat, ruderal grassland that is considered appropriate foraging habitat.

Loggerhead Shrike. Federal Listing: Species of Concern; State Listing Species of Special Concern. The Loggerhead Shrike is a predatory passerine that forages in grasslands or ruderal habitats for small reptiles, mammals, birds, and insects and nests in small trees and shrubs. In approximately the last 20 years, populations of the Loggerhead Shrike in eastern North America have declined significantly. Although Loggerhead Shrikes are still considered a fairly common species in much of California, the piecemeal loss of grasslands has caused local declines in many areas, and the species as a whole is declining somewhat in the state. It is still common in this region and most California farming areas, and the site appears to provide suitable potential habitat. Loggerhead Shrikes occur on the site and could nest on the site.

White-tailed Kite. Federal listing status: None; State listing status: Protected. This species prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense broad-leafed deciduous trees in partially cleared or cultivated fields, grassy foothills, marsh, riparian, woodland, and savanna. Kites prey primarily on small rodents (especially the California vole), but also feed on birds, insects, reptiles, and amphibians. When prey is abundant, these birds may rear two broods in a single breeding season. Once considered endangered, the kite is now fairly common, though fully protected in the State of California. This species, an increasingly common bird in the South Bay, has been observed on and near the site and could potentially breed in larger trees at or within 250 feet of the site.

San Francisco Dusky-footed Woodrat. Federal Status: None' State Status: Fully Protected Species. This species prefers hardwood forests and brushlands and often forages above ground. Food includes berries, fungi, leaves, flowers, and nuts. Within the local areas they are frequently observed in riparian areas and in brushy areas adjacent to woodlands. Nests are large mounds of sticks placed in dense tangles on or near the ground and within trees. Active nests of the San Francisco dusky-footed woodrat could occur in the dense riparian habitat along Guadalupe Creek adjacent to the site. No riparian habitat; however, exists within the project boundaries. Therefore, project activities are not expected to adversely affect the San Francisco dusky-footed woodrat.

Regulated Habitats

Jurisdictional Waters

Areas meeting the regulatory definition of "waters of the United States." (Jurisdictional Waters) are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), under Section 404 of the Clean Water Act (1972). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide and all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, and natural ponds. Areas not considered to be jurisdictional include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, and small artificial water bodies such as swimming pools and water-filled depressions. No USACE jurisdictional waters would be impacted as a result of the proposed project.

Habitats Regulated under California Fish and Game Code Section 1600-1603

The beds, banks, and channel of Guadalupe Creek within the northeastern project boundary are subject to the regulatory jurisdiction of the CDFG under Sections 1601-1603. Only 600 square feet of ruderal habitat occurs within this jurisdiction. This ruderal area was formerly occupied by riparian canopy and understory, which had already been removed prior to the reconnaissance-level survey, resulting in succession of ruderal habitat as described above. The construction of the outlet works will include excavation and placement of clean soil at the terminal pool, in proximity to Guadalupe Creek. The removal of vegetation, placement of fill, or other impacts from construction within the creek would require a Streambed Alteration Agreement from the CDFG, as described in the Project Description section of this EIR.

Ordinance Size and Heritage Trees

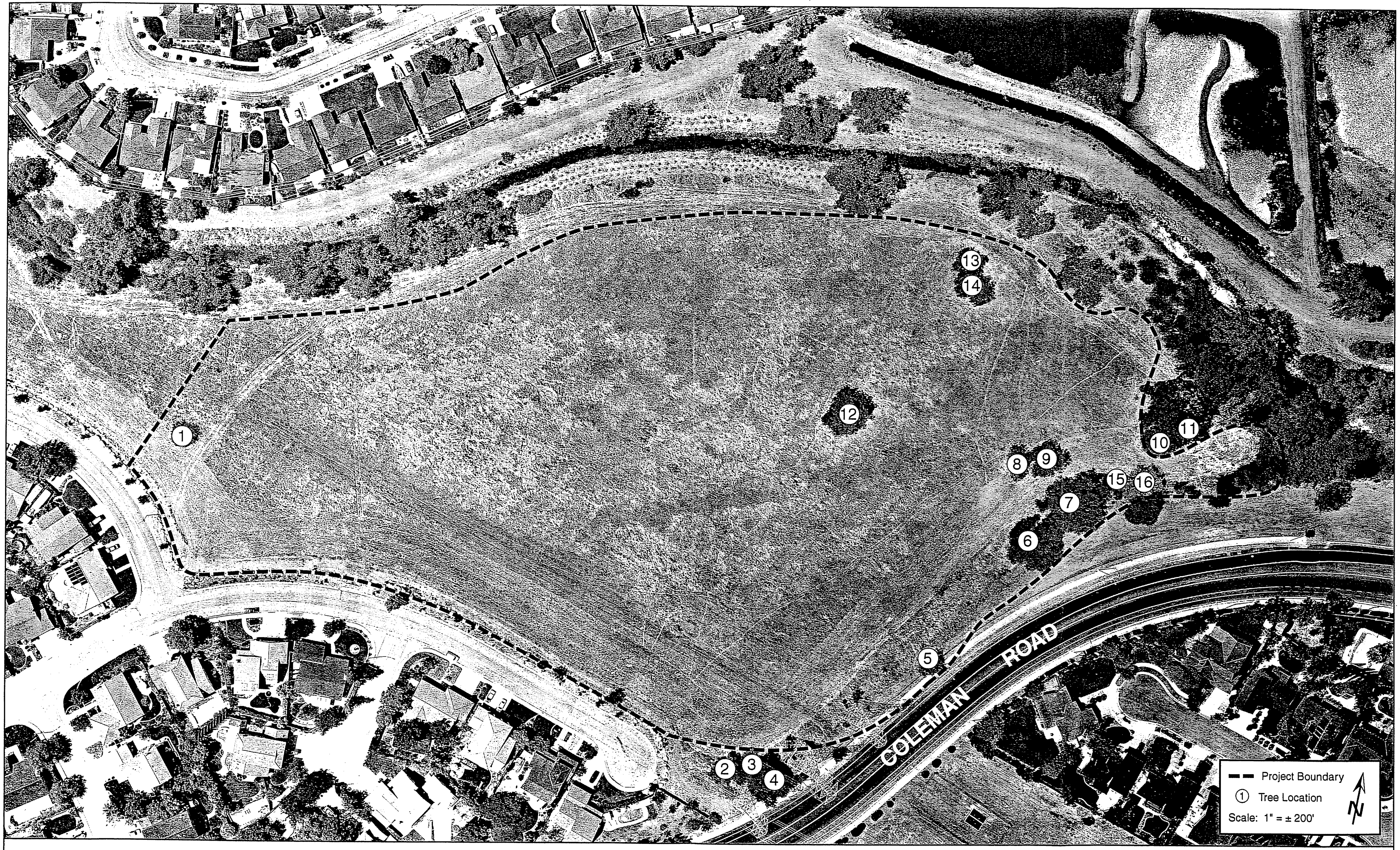
Regulatory Overview. The City of San Jose Tree Ordinance (San Jose City Code, sections 13.31.010 to 13.32.100) serves to protect all trees having a trunk measuring 56 inches or more in circumference (18 inches in diameter) at the height of 24 inches above the natural grade of slope. The ordinance protects both native and non-native species. A tree removal permit would be acquired from the City of San Jose for the removal of ordinance-sized trees. In addition, any tree found by the city council to have special significance could be designated as a Heritage Tree, regardless of tree size or species. It is unlawful to vandalize, mutilate, remove, or destroy such heritage trees. The City of San Jose requires that all trees on the site be inventoried and categorized according to size, species, and location, prior to the issuance of any approval, or permit for construction of any improvement of the building site.

David J. Powers and Associates prepared a formal tree survey of trees on the project site, on January 25, 2002 (refer to Table 6 and Figure 10). Trees were measured according to the City of San Jose's tree ordinance. All of the trees located within the project site occur on ruderal habitat, as described above. None of the trees on site are listed as Heritage Trees by the City of San Jose.

TABLE 6. TREE SURVEY

Tree #	Common Name	Circumference in inches at two feet above Grade	Health and Vigor	Notes
1	Mexican Elderberry	16.5, 26	Very low	Burned
2	Mexican Elderberry	13,13,18,47,78	Very low	Appears dead
3	Mexican Elderberry	42	Very low	
4	Valley Oak	126	Low	
5	Blue Elderberry	16,20,36,46	Very low	
6	Blue Oak	160	Very low	
7	Valley Oak	118	Moderate	
8	Northern California Black Walnut	69	Moderate	
9	Northern California Black Walnut	113	Moderate	
10	Valley Oak	164	Very low	
11	Mexican Elderberry	1,20,24,24,26	Very low	
12	Northern California Black Walnut	105	Low	
13	Northern California Black Walnut	82	Moderate	
14	Northern California Black Walnut	92	Low	
15	Mexican Elderberry	36,38,38,44	Very low	Mostly dead
16	Tree of Heaven	24,25,29,31	Moderate	

A total of 16 trees on the site were measured, of which, ten were ordinance size. The trees exhibited very low to moderate general health, based on their size, structure, and vigor; however, the survey was done during winter months, when tree vigor may not be adequately visible.



TREE LOCATION MAP

FIGURE 10

2. Vegetation and Wildlife Impacts

For the purposes of this project, impacts to vegetation and wildlife are considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations; or
- have a substantial adverse effect on any wetland habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or
- have a substantial adverse effect on waters of the United States as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- substantially reduce the habitat of a fish or wildlife species, including causing a fish or wildlife population to drop below self-sustaining levels or threatening to eliminate an animal community; or
- reduce the number or restrict the range of a rare or an endangered plant or animal.

Vegetation and wildlife impacts can occur from both direct and indirect disturbance. Direct impacts to wildlife species are correlated with the loss of plant communities that provide their primary habitat. These losses would result from grading, filling, or other damage to habitats, and direct wildlife loss or disturbance caused by construction activities and human uses. The conversion of these communities to other land uses, therefore, may result in the loss of, or reduction of use of habitat for some special status wildlife species.

Indirect impacts to wildlife could also occur. If remaining fragments of undeveloped habitat are isolated from larger areas of contiguous habitat, the remaining habitats are expected to have lower biological values than those prevailing before development. In addition, human-related issues, such as pet intrusion can also result in indirect impacts to wildlife.

Impacts to Biotic Habitats

Loss of Ruderal Habitat

Between approximately three and four and one-half acres of ruderal habitat within the proposed mitigation site would be permanently displaced by the habitats (open-water, wetland, riparian) included as part of the proposed wetland on the site. Other ruderal areas such as along the PG&E tower line easement may only be used temporarily for staging activities. Ruderal habitat is common regionally and the plant and animal species that utilize this habitat type are generally abundant. Therefore, the loss of ruderal habitat is a less than significant impact.

- **The loss of three to four and one-half acres of ruderal habitat, as a result of construction of the proposed project, is not considered significant, since this habitat is generally abundant in the project area and would be replaced with a higher habitat value. (Less than Significant Impact)**

Impacts to Special Status Plant Species

All of the special status plants considered in this assessment were rejected as potentially occurring on site due to the absence of specific microhabitat requirements (i.e. serpentine environments) or due to negative survey results. In addition, only the ruderal habitat on site would be impacted. Ruderal habitat is abundant throughout the region, and the loss of this habitat for special-status plants is therefore less than significant.

- **No special status plant species occur on the project site and the loss of ruderal habitat is a less than significant impact of the proposed project. Therefore, the proposed project would not result in significant impacts to special status plant species. (Less than Significant Impact)**

Impacts to Steelhead Rainbow Trout (Central California Coast ESU) and Chinook Salmon (Central Valley fall-run ESU)

Both steelhead (Central California Coast ESU) and Chinook salmon (Central Valley fall-run ESU) are present in Guadalupe Creek adjacent to the project site. They do not occur at the site, as the entire site is outside of the 10-year floodplain and the vast majority of the site is outside the 100-year floodplain. Nonetheless, the potential for the project to impact steelhead and Chinook salmon by stranding of fish on site, temporary water quality impacts during construction, and by thermal impacts to Guadalupe Creek were assessed.

Stranding Impacts

As a result of the grading completed for the Guadalupe Creek Restoration Project, the ground elevation between the wetland site and Guadalupe Creek is now one foot higher than the estimated Guadalupe Creek 100-year water surface elevation. Thus, the wetland mitigation pond would be isolated from the 100-year floodplain of Guadalupe Creek. In addition, the first two infiltration pools are outside the 50-year floodplain and the terminal infiltration pool is outside the 10-year floodplain. Therefore, the wetland mitigation pond and infiltration pools are not expected to strand salmonids.

Degradation of Creek Water Quality during Construction

The project is designed to avoid discharge of surface water to Guadalupe Creek during the dry season. In addition, discharges from the wetland to Guadalupe Creek would only occur during large storm events (50-year event; 2% probability of occurrence in any year), and the outlet flow from the wetland during a 100-year storm would be less than one tenth of one percent of the flow in the creek. The project includes BMPs, as described in Appendix B and

Section F of this EIR, to minimize temporary construction-related water quality impacts to salmonid habitat via erosion and transport of sediments from the newly graded site to Guadalupe Creek. The application of pneumatically applied mulch to the site after construction and planting would also minimize the transport of sediments into Guadalupe Creek. In addition, grading of the terminal infiltration pool, within CDFG jurisdictional habitat will occur during the dry season between April 15 and October 15, further reducing potential impacts to the creek.

Thermal Impacts during Operation of the Wetland

As previously described in Section F, *Hydrology*, of this EIR, a thermal analysis was conducted to determine the potential impact of the proposed project on Guadalupe Creek temperatures. The potential for thermal impacts during high creek flows (primarily December through March) was discounted, as direct flows form the wetland to the creek would be very rare and extremely small compared to the high creek flow conditions that would exist during such storm events. In addition, creek and wetland temperatures would both be relatively low during storm events, further reducing the potential for any thermal impact from the wetland under these conditions. The annual drawdown, designed to occur in September each year, would be accomplished by evaporation and percolation and there would not be any surface water discharge from the wetland to the creek. Thus, the thermal impact analysis focused on the potential for percolated water from the wetland to flow to the underlying groundwater and subsequently, flow to the creek as subsurface flow.

The existing water temperatures in the creek falls within the Optimal to Suboptimal range for the life stages of salmonids present in the creek in September. The predicted increased temperature range of 55.9 to 65.8 degrees F would still fall well within the optimal to suboptimal range for salmonids and well below the unacceptable threshold for pre-spawning adult Chinook salmon (75 degrees F) and well below the lethal threshold for juvenile steelhead (77 degrees F). Therefore, the predicted temperature increase of 0.1 to 0.5 degrees F via seepage from the Los Capitancillos wetland would not substantially increase the Guadalupe Creek temperature and would have a less than significant impact on salmonids. In addition, riparian habitat planting along Guadalupe Creek as part of the adjacent Guadalupe Creek Restoration Project and along the outlet channel included in the wetland design is expected to shade the creek, thereby lowering creek and wetland water temperatures in the future when the trees mature.

In light of the sensitivity regarding thermal impacts to Guadalupe Creek, given the presumed presence of Steelhead and/or Chinook salmon throughout the year, the potential for wetland water to warm the creek is of concern. For this reason, if the final design projects a maximum expected percolation rate in excess of the rate assumed in the initial thermal analysis (0.15 cfs), the SCVWD will conduct further analysis. This investigation would indicate whether there is any potential for detrimental thermal impacts during any time of the year given potentially higher percolation rates, particularly in the initial years after construction.

If shown necessary by the final design thermal analysis, design elements will be incorporated into the project to avoid detrimental changes in creek water temperatures. These measures could include:

- installation of a cut-off wall between the wetland and the creek,
- redesign of percolation system elements to operate at further distance from the creek,
- inclusion of a less permeable layer below the wetland soils cover, or
- revision of the specification of the wetland soil liner properties or the wetland hydroperiod.

◆ **The project would not result in significant impacts to Steelhead Rainbow trout or Chinook Salmon, nor would it result in the significant loss of habitat that supports a special status plant and/or animal species. (Less Than Significant Impact)**

Impacts to Burrowing Owls

As stated above, the project site is not presently used by Burrowing Owls and there are no known records of such use in the past. Even though the site contains the type of habitat that could potentially be utilized by owls, there is presently no evidence to indicate the presence of Burrowing Owls. Thus, the conversion of this habitat to a wetland would not constitute a significant impact.

The above analysis and conclusion not withstanding, there is a small potential that Burrowing Owls could move onto the project site prior to the commencement of construction. Burrowing Owls, like many other bird species, are protected under both federal and state law and the harming of individual owls during construction would be illegal. Therefore, although not required as mitigation under CEQA, the following tasks will be undertaken by the SCVWD in order to ensure that no Burrowing Owls are impacted:

- Within 30 days prior to the start of construction, a qualified wildlife biologist will survey the project site for the presence of Burrowing Owls. If any owls are found to be present, SCVWD will implement measures to prevent harm to the owls. Any action to relocate an owl will be undertaken only upon approval of the CDFG.

◆ **The project would not impact Burrowing Owls and would not result in a significant loss of Burrowing Owl habitat; nonetheless, a pre-construction survey will be conducted for the presence of Burrowing Owls. (Less than Significant)**

Impacts to Nesting Raptors

American Kestrels are known to breed in sycamore trees within 250 feet of the site. White-tailed Kites, Red-shouldered Hawks, Red-tailed Hawks, Western Screech Owls, Great Horned Owls, Cooper's Hawks and other raptors occur in the general vicinity and are also known to breed in the species of trees present along the Guadalupe Creek riparian corridor. Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. The federal Migratory Bird Treaty Act (16 U.S.C. § 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Birds of prey are protected in

California under California Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Construction disturbance and the removal of trees on the site during the breeding season may result in the incidental loss of fertile eggs or nestling, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Any loss of fertile raptor eggs or nesting raptors, or any activities resulting in raptor nest abandonment, would constitute a significant impact. Construction activities such as tree removal, site grading, etc., that result in the direct loss of, or in disturbance that leads to loss of, a raptor nest (eggs or young), would violate state and federal law and would be considered a significant impact under the California Environmental Quality Act (CEQA). Measures are included in the project and described below that would avoid or reduce this potentially significant impact to nesting raptors to a less than significant level.

- **With the implementation of the measures included as part of the project, potentially significant construction-related impacts to nesting raptors would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

Impacts to Nesting Migratory Birds

The Loggerhead Shrike, a California State Species of Special Concern, occurs and may nest on the site. Additionally, numerous local bird species protected by the Federal Migratory Bird Treaty Act are known to breed in ruderal grasslands and mixed riparian habitats such as those found at the site and along the riparian corridor of Guadalupe Creek. The project includes measures to avoid or reduce potentially significant construction-related impacts to nesting migratory birds to a less than significant level.

- **With the implementation of the measures included as part of the project, potentially significant construction-related impacts to nesting migratory birds would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

Impacts to Vegetation within CDFG Jurisdiction

The proposed construction activities within the bed and banks of Guadalupe Creek (within CDFG jurisdiction) would require the removal of ruderal vegetation and regrading of slopes; however, there would be no modification of the low flow channel. Approximately 600 square feet of CDFG jurisdiction habitat (bed and banks of the creek) would be permanently impacted, as the outlet works will include excavation and placement of clean soil at the terminal pool, in proximity to Guadalupe Creek (Figures 4 and 8). This impact area; however, currently consists entirely of ruderal herbaceous vegetation. The project boundary, which extends into CDFG jurisdiction, represents the limit of impacts (grading and rock placement). Environmentally sensitive area fencing and silt fencing would be erected along the project boundary in the eastern portion of the site to protect riparian habitat adjacent to the areas of proposed grading.

Permanent impacts to vegetation within the CDFG jurisdiction are mitigated at ratios based on the quality of the habitat to be impacted. Only ruderal habitat would be impacted in CDFG jurisdiction and a corresponding mitigation ratio of 1:1 (replacement: loss) would be adequate. The riparian mitigation area (600 square feet) would be located between the terminal infiltration pool and the Guadalupe Creek low-flow channel. The mitigation area is currently ruderal habitat and is a gap in the dense willow riparian habitat along the creek channel floodplain. Willow riparian habitat would be restored in this gap as mitigation for installation of the terminal infiltration pool and the rock protection to be placed within the pool.

- ♦ **With the implementation of measures included as part of the project, potentially significant construction-related impacts to CDFG jurisdictional habitat would be avoided or reduced to a less than significant level. (Less Than Significant Impact with Measures Included in the Project)**

Impacts to Ordinance Size Trees

A total of three of the ten ordinance-sized trees on site would be removed to accommodate grading of the wetland mitigation site. These include the three Northern California black walnut trees (# 8, 9, and 12, as shown on Figure 10) within the upland ruderal habitat. While these large, mature trees are not native, they can be valuable to wildlife, providing nesting, roosting, and foraging habitat. Several additional ordinance-size trees surround the project site and would be protected during construction with protection zone fencing, which would remain in place until final grading. The loss of large native trees and or other ordinance size trees would be a significant impact, however, the project would include the replacement of these trees at a five to one ratio.

- ♦ **With the implementation of measures included as part of the project, potentially significant impacts to ordinance size trees would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

3. Mitigation and Avoidance Measures for Vegetation and Wildlife Impacts

The following measures would avoid or reduce potentially significant impacts to biological resources to a less than significant level:

Measures Included in the Project

Mitigation for Impacts to Nesting Raptors during Construction

- ▪ Construction would be scheduled to avoid the nesting season to the extent possible. In the South San Francisco Bay area, most raptors breed from February through August. Some White-tailed Kites and Red-shouldered Hawks; however, may begin nest building as early as January, and kites may have young in the nest through September.

- If construction can be scheduled to occur between October and December, the nesting season would be avoided, and no impacts to nesting raptors would be expected.

- If it is not possible to schedule construction between October and December, preconstruction surveys for nesting raptors would be conducted by a qualified ornithologist in order to ensure that no raptor nests would be disturbed during project implementation.

- The preconstruction surveys would be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (January through April). In addition, these surveys would be conducted no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

- During this survey, the biologist would inspect all trees, electrical towers, and other potential nest sites within the limits of grading and the area within 250 feet of the limits of grading. If an active raptor nest is found within the limits of wetland construction activities, a qualified ornithologist, in consultation with CDFG, would determine the extent of a construction-free buffer zone (typically 250 feet) to establish around the nest.

- Trees removed from the site during construction will be replaced, as described below.

Mitigation for Potential Impacts to Nesting Migratory Birds during Construction

- The SCVWD's Migratory Bird Treaty Act Guidelines for Compliance would be followed in order to avoid impacts to these other protected bird species.

- Construction would be scheduled to avoid the nesting season. The local nesting season for migratory nesting birds spans the period between February 15 and September 1, peaking from March 15 to July 1.

- If it is not possible to schedule construction to occur between September and mid-February, then preconstruction surveys for nesting migratory birds would be conducted prior to work taking place at the site. They should be conducted 14 days prior to work by qualified biologists. Trees and shrubs would be visually inspected for nests. Grasslands should be checked by rope-dragging or a similar method. If an active nest is found within the limits of wetland construction activities, a qualified ornithologist, in consultation with CDFG, would determine the extent of a construction-free buffer zone (typically 250 feet) to be established around the nest.

Mitigation for Impacts to Ordinance-Sized Trees

- Lost non-native trees greater than 18 inches in diameter would be replaced at a 5:1 ratio, thus requiring the planting of 15 native trees on the project site within the outflow swale in the eastern portion of the project site.

- Planting stock would be collected locally from within Santa Clara County within the Guadalupe River Watershed. Planting would be conducted from November to January using small nursery stock or seeds. The replacement trees would be installed in an environment suitable for their establishment and growth.

- The trees would be irrigated and maintained for a period of not less than three years.

Conclusion: **With the implementation of the measures described above as part of the project, potentially significant impacts to biological resources would be avoided or reduced to a less than significant level. (Less Than Significant Impact with Measures Included in the Project)**

H. HAZARDOUS MATERIALS

The following discussion is based upon a Hazardous Materials Report prepared for the project site by *Tetra Tech, Inc.* (January 2002). This report summarized the results of a Hazardous Substance Liability Assessment (HSLA) previously prepared for the site by Kleinfelder (2001). Additional information regarding the presence of mercury on the site is included in the Hazardous Materials Report (Appendix G).

1. Existing Setting

The proposed project site is a relatively flat, open area covered by annual grasses and a few large trees. The soils on the site are predominantly silty clay loam underlain by coarser soils such as gravelly loam. Large cobbles are common, especially at depths below two feet.

The proposed site was used in an agricultural capacity, primarily as an orchard, from at least 1958 to the late 1970s. Based on aerial photographs, Oak Canyon Place and the residential uses to the south and west of the site, were constructed by 1980. Organo-chlorine pesticides were commonly used in orchards in the Santa Clara Valley, and low levels of selected pesticides have been detected in soils on the site, as discussed below. Other pesticides or herbicides containing metals such as mercury, arsenic, or lead may also have been used at this site.

The project site is located next to Guadalupe Creek in the Guadalupe River Watershed. In the headwaters region of the creek, mercury mining in the New Almaden Mining District was conducted from 1845 to 1975. Over 80 percent of the mercury mining occurred between 1845 and 1935, prior to when the Almaden and Guadalupe Reservoirs were constructed. Thus, mercury-bearing mine wastes and contaminated soils have been transported downstream where they deposited on the site during flood events.

Soil Sampling

Sampling of the creek sediments and bank soils showed that mercury is present in the banks of the creek. Specific sampling of the proposed wetland site has been conducted, as described below.

Mercury Sampling

Fifty-six soil samples from the project site were originally tested for the presence of mercury. The mercury concentrations in the soil of the combined data set, within the planned wetland area, ranged from 0.106 to 15 mg/kg. None of the samples would be classified as hazardous, based on the TTLC (Toxic Threshold Limit Concentration), which is 20 mg/kg.

The second criterion for determining if a material is classified as a hazardous material is the STLC (Soluble Threshold Limit Concentration)[9] limit of 0.2 mg/L, or 2 mg/kg. A Waste

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[9] California Code of Regulations, Title 26

Extraction Test (WET) was run on 36 of the 56 samples from the wetland site. The mercury concentrations for these samples were less than the STLC limit.

In addition to the original 56 samples, 30 samples were collected in November 2000 near the planned basin of the wetland. The mercury concentrations in these samples ranged from 0.17 to 15 mg/kg. As in the previous data set, the mercury was higher at the surface (average of 3.85 mg/kg) than at depth, although not in each boring. The WET leaching test was conducted on all thirty samples; mercury was below detection in all samples. The mercury concentration in the proposed wetland area are also less than the US Environmental Protection Agency preliminary remediation goals (PRGs) for residential areas (23 mg/kg).

Soils recently placed by the Guadalupe Creek Restoration Project between the creek and the wetland have not been tested for mercury; however, only soils with mercury concentrations not exceeding hazardous waste criterion were reused on the site. According to the Guadalupe Creek EIR, soils were reused on adjacent areas where frequent exposure to overbank flow is not anticipated to occur.

Other Metals Sampling

Soil samples collected in May and June 2000 and the 30 samples collected in November 2000, showed concentrations below the respective TTLC criteria for all CAM 17 metals[10]. The California Health and Safety Code Section 25157.8 also requires that lead be less than 350 mg/kg to allow disposal at Class II or III landfills. The maximum lead in any of these samples was 15.6 mg/kg. The WET test was run on both sets of samples. Lead was below detection in all the leachate samples and they did not exceed the STLC limits for the other metals. Thus, the soils on the project site are not likely to be classified as hazardous due to metals.

Organic Compound Sampling

Twenty-two soil samples collected on the project site in May and June 2000 were analyzed for organic compounds. No PCBs (polychlorinated biphenyls), volatile organic compounds including benzene, toluene, ethylbenzene, or xylenes, or gasoline were found in these samples. Low levels of diesel and kerosene petroleum hydrocarbons were detected in some soil samples, but the maximum concentration was 12 mg/kg, which is below levels of concern. The soil samples collected in November 2000 were also analyzed for PCBs. No PCBs were detected in these samples. No known uses of PCB-containing materials were identified for this site. Thus, it is unlikely PCBs are present in the proposed wetland area.

Sampling for asbestos was conducted on the site by the SCVWD in June 2000. Asbestos particles were noted as less than one percent in only one out of 10 samples, and not identified at all in the remaining samples. No fibrous materials were noted in the boring logs, therefore, it is unlikely that asbestos is present in the soils of the project site.

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[10] California Assessment Method is a set of 17 metals required to be analyzed to determine if something is a hazardous waste.

Pesticides and herbicides were analyzed due to the past agricultural use of the site. Low levels of several pesticides (DDT, DDE, heptachlor epoxide, and delta-BHC) were identified in some soil samples collected in May and June 2000. Three samples from the project site were analyzed for organophosphorus pesticides, but none were detected. The soil samples from November 2000 had detected concentrations of DDT and DDE in all thirty soil samples. The concentrations; however, were less than hazardous waste criteria and less than the residential preliminary remediation goals for the compounds. In summary, low levels of pesticides are likely to be present in soils from the proposed wetland area, but the levels are not a determining factor in determining soil disposal requirements.

Potential Sources of Off-Site Contamination

Ten sites on regulatory databases were identified within one mile of the proposed wetland site, but seven were considered to be downgradient or cross-gradient of the site. Three sites were upgradient; however, no violations had been found on one of the sites, and the business was no longer present as of March 2000. A second site involved an underground tank, but was located over 1/3-mile away, and had been previously closed. The third site, the Guadalupe Rubbish Disposal Company at 15999 Guadalupe Mine Road is located about 0.7 miles away. A diesel leak to soil occurred at this facility, but the leaking tank was removed in 1990, and five other diesel tanks were removed in 1995. This case was closed in 1998 (SCVWD, 1998). Thus, no hazardous waste generators, facilities with tanks, or disposal sites are thought to affect the proposed site.

2. Hazardous Materials Impacts

Thresholds of Significance

For the purposes of this project, hazardous materials impacts are considered significant if the project would:

- create a significant hazard to the public or the environment through the routine storage, use, or disposal of hazardous materials; or
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school; or
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impact of Mercury-Contaminated Soil on Wetland

The greatest concern with regard to the accumulation and transport of mercury in the watershed is the potential for mercury methylation. Mercury methylation is the process whereby inorganic mercury mixes with carbon and sulfur to form a toxic compound. This reaction takes place in environments with low oxygen levels, such as stagnant water, which could be produced by the wetland environment.

Methyl mercury is readily taken up by organisms and is stored in their tissues. If other organisms, higher on the food chain, consume these organisms, then the mercury concentrations are also passed on. In this manner, mercury could potentially move up the food chain, for example, to fish or birds.

To minimize the potential for methylation to occur in the wetland, the proposed project design includes excavation of mercury-bearing soils from the wetland site and its replacement with uncontaminated ("clean") topsoil. The San Francisco Regional Water Quality Control Board (SFRWQCB, 2000) draft screening criteria for maximum mercury concentration in wetland cover soil is 0.4 mg/kg (dry weight).

The proposed wetland cover will minimize mercury methylation because methylation tends to occur primarily in the upper two to four inches of soil at the oxic/anoxic (soil/water) interface. Thus, providing a "clean" soil cover in that zone will separate the primary zone of potential methylation from the underlying mercury-contaminated alluvium. The soil cover has been designed to extend below the expected rooting zone of wetland plants. In the unlikely event that the root systems of these plants penetrate the soil cover, there is a potential for a small amount of mercury to be taken up into the plant, and for that material to fall as debris into the wetland[11]. Terrestrial plants, despite the fact that they will root into the underlying site soils, are also not of concern because they tend to store mercury more in roots than leaves or fruits. Thus, most of the mercury would be retained in the woody materials, and would not be subject to annual decomposition. This potential additional source of mercury with methylation potential, is therefore, expected to be less than significant.

The wetland has been designed to allow water to percolate into groundwater, rather than discharge directly to the creek, except during significant storm events. The wetland itself will have a negligible potential for elevated mercury levels given the project design to minimize mercury input by relying on the Almaden Valley Pipeline for water supply, as well as installation of the "clean" soil liner to minimize mercury inputs from the surrounding soil (see above). Mercury strongly adheres to soil, so the concentration of mercury reaching the creek through percolation from the wetland would be even less than the original wetland discharge.

Any mercury present in the surrounding groundwater is not expected to migrate from the groundwater to the wetland because mercury does not readily move through groundwater, but rather adheres readily to soil particles. The project includes the installation of a soil liner that will provide a filtering layer and will thereby reduce the potential for mercury to migrate into the wetland. In addition, the general direction of groundwater movement, and therefore, the general direction of any mercury transport, is expected to be from the wetland into the aquifer, and not the reverse. Therefore, impacts associated with the migration of groundwater to the wetland are less than significant.

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[11] Karen Summers, *Tetra Tech*, personal communication, March 2002.

In addition, no fish will be stocked in the wetland and the annual drawdown will preclude their establishment. In the event; however, that fish are nonetheless introduced to the wetland by anthropogenic or other means, "No Fishing" signs will be posed to further minimize the methyl mercury hazard to humans.

- **The proposed project would not contribute significantly to the bioaccumulation of mercury in the food chain due to the conversion of inorganic mercury in soils to methyl mercury, nor pose a significant human health hazard. (Less than Significant Impact)**

Impact of Mercury-Contaminated Water Sources on Wetland

One of five possible sources of water to the Almaden Valley Pipeline is the Calero Reservoir. This reservoir receives overflow discharges from Almaden Reservoir, which receives runoff from the former Almaden Mining District, where soils are known to have high levels of mercury. In January 2001 the water at Calero Reservoir, near the outlet to the pipeline was tested for mercury content. The total mercury was 1.46 ng/L (nanograms per Liter) and the methyl mercury was less than 0.075 ng/L, using ultra-clean trace metal testing methods. These concentrations are not high relative to typical concentrations of mercury in water; they are similar to the median concentrations found in a survey of 21 basins throughout the U.S., which were 2.28 ng/L for total mercury and 0.06 ng/L for methyl mercury.

For the period from 1994 to 2001, water was used only for a few weeks in February and March 1997 and in December 2000. Water from the Calero Reservoir is therefore used as a water source for the pipeline only infrequently and only during winter; a time of the year when use of pipeline water to maintain water level in the wetland will be very low.[12]

The use of Calero Reservoir water is not expected to have a significant impact upon the proposed wetland. If, however, water from the reservoir is to be used in the pipeline more frequently than it currently is, or outside the low wetland use period of December – April, and analysis determines that use of the water may have an impact upon the proposed wetland, an appropriate strategy would be developed to minimize potential effects on the wetland. This strategy could include overfilling the wetland prior to the period of its use, and/or monitoring wetland water quality to assess the need for further mitigation measures.

- **With the implementation of measures included as part of the project, impacts associated with the future or outside the low wetland use period of Calero Reservoir water would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

Construction-Related Hazardous Materials Impacts

Construction activities related to installation of the wetland basin and inlet and outlet structures would require excavation of mercury-containing soil. The excavation activities would temporarily disturb material, which would result in dust emissions within the project area during the two-week construction window. Both construction workers and nearby residents may be exposed to mercury or other metals in the dust. As described in Section C, *Air Quality*, mercury concentrations of the soils are expected to be less than the EPA hazardous materials criteria and applicable OSHA standards for workers. Therefore, this is a less than significant impact. The SCVWD will implement project BMPs, as described below and in Section C of this EIR, that incorporate the BAAQMD's guidelines for PM_{10} control to avoid or further reduce emissions of mercury-contaminated dust.

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[12] Betty Andrews, Principal, *PWA*, personal communication, April 2002.

- **With the implementation of BMPs included as part of the project, potentially significant construction-related hazardous materials impacts would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

On-Site Impacts

No evidence of surface dumping or spills were found in the proposed wetland footprint during a site survey on March 9, 2000 (Kleinfelder, 2001). Since no structures or buildings presently exist on the site, there are no areas with asbestos or lead-based paint. Overhead transmission lines cross the site, but there are no transformers; thus, PCBs are not likely to be present. The Almaden Valley pipeline and a storm drain cross the edge of the site, along the southern boundary, but do not represent a hazard to the proposed project.

The site was formerly an open field and orchard and is now next to a residential housing area. The Hazardous Materials Liability Assessment conducted for the site did not identify any above ground or underground tanks on the site. There is a potential for encountering subsurface hazards that have no surface features, such as abandoned underground storage tanks and piping, and contaminated material from undocumented dumping and land filling.

Should such unexpected hazardous materials be encountered during construction, the SCVWD will conduct all required hazardous materials investigations to identify and delineate the extent of the hazardous material contamination within the uncovered area and would evaluate potential impacts on project construction. The SCVWD would verify that all hazardous waste materials removed during construction are handled and disposed of by a licensed hazardous waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility, in accordance with federal, state, and local requirements.

- **With the implementation of the measures included as part of the project, potentially significant impacts associated with the discovery of hazardous materials would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

Transport, Use, or Disposal of Hazardous Materials

The proposed project would not require the long-term storage, treatment, transport, use, or on-site disposal of hazardous materials. Small amounts of some hazardous materials will be stored, used and handled during construction, including petroleum derivatives and other substances (e.g., gasoline, oils, lubricants, hydraulic fluid, solvents) required to operate construction equipment. These materials could be released in accidental spills. Best

Management Practices, including spill prevention measures, the use of a Spill Kit, implementation of hazardous waste management, and equipment refueling/maintenance practices, will be implemented to reduce these potential impacts. Detailed descriptions of these BMPs can be found in Appendix B of this EIR.

Levels of mercury in the soil on the project site have been found to be below state and federal hazardous materials levels. Soil classified as hazardous, including soils containing more than 20 mg/kg dry weight of mercury would be disposed of in a Class I Landfill. Soils below this concentration may be reused or placed on the site. Therefore, the reuse of soils on the project site would not have a significant impact on the proposed project or the surrounding area.

The short-term transport of soils containing mercury is of concern, since there are residences located along the streets that trucks would travel on during exportation of soils from the site. While it is not known what route trucks would take once they reach Coleman Road, Guadalupe School is located 0.3 miles to the southwest of the project site, along Coleman Road. The exportation of approximately 24,000 cubic yards of soil would result in approximately 92 truck trips per day over a two-week period on the adjacent residential streets. The project includes measures, as described below and in Section C, *Air Quality*, that would avoid these potential impacts or reduce them to a less than significant level.

- **With the implementation of BMPs and measures included in the project, potentially significant construction-related impacts associated with the transport of soils that contain mercury would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

3. Mitigation and Avoidance Measures for Hazardous Materials Impacts

The following BMPs and measures are included in the project to avoid or reduce potentially significant hazardous materials impacts to a less than significant level:

Measures Included in the Project

Mercury-Contaminated Soils

- The footprint of the proposed wetland will be excavated to the design excavation grade or lower to provide an excavation surface with a total mercury concentration less than or equal to one mg/kg. Soil with mercury concentrations less than or equal to one mg/kg will be used to refill to the design excavation grade, if necessary.

- 18 inches (12 inches for the majority of plant root biomass, plus an extra six inches for differential settlement) of clean soil will be replaced in nearshore areas of the wetland basin where wetland plants would be established.

- 12 inches of clean soil will be replaced in the open water basin areas of the wetland. This amount clean soil will provide an adequate separation from the underlying soil for target benthic invertebrates that may burrow up to four inches into the soil layer.

Exposure from Mercury in Soils

- The SCVWD would be required to comply with the Soil Management Plan developed for the project. The Soil Management Plan would include measures for monitoring and reducing dust during construction, stockpiling excavated soil until testing is complete, and transporting any hazardous or unneeded material offsite in accordance with state and federal regulations. The Soil Management Plan would describe testing procedures to determine if the soil excavated from the site is hazardous, and would discuss the planned disposal options.

- Any excavated soil with a concentration above 20 mg/kg would be disposed of at Class I Landfill. The Soil Management Plan would include provisions for measuring dust levels and for implementing measures such as watering the newly excavated areas and stockpiles to prevent windblown transport of excavated soil.

- Provisions would also be developed for preventing migration of runoff containing soil particles to off-site areas including Oak Canyon Place that borders the southern part of the proposed wetland, and for handling any groundwater seepage that could enter the newly excavated basins.

- The construction company would be required to prepare and follow a Site-specific Health and Safety Plan (HSP) to identify, evaluate, and control safety and health hazards and provide for emergency response. The HSP will establish work practices and hazard control measures that will be implemented as previously described in Section C, *Air Quality*.

Mercury-Contaminated Water Sources

- If water from Calero reservoir is to be used in the pipeline more frequently than it currently is, or outside the low wetland use period of December – April, and analysis determines that use of the water may have an impact upon the proposed wetland, an appropriate strategy will be developed to minimize potential effects on the wetland.

Transport of Hazardous Materials

- The Soil Management and Health and Safety Plans would include measures for storing, sampling, and transporting soils containing mercury, as described in Section C, *Air Quality* and Appendix B.

***Conclusion*: With implementation of measures described above as part of the project, potentially significant hazardous materials impacts would be avoided or reduced to a less than significant level. (Less Than Significant Impact with Measures Included in the Project)**

I. CULTURAL RESOURCES

An Archaeology Report was prepared for the project by *Holman & Associates Archaeological Consultants* (January 2002) to determine the potential for cultural resources on the project site and within the project area. The report is on file at the Santa Clara Valley Water District offices, 5750 Almaden Expressway, San Jose. The cultural resources report was based on a review of maps and records on file at the Northwest Information Center (NWIC), and an archaeological field inspection.

1. Existing Setting

Prehistoric Period

Native American occupation sites in the Santa Clara Valley appear to have been selected for accessibility, protection from seasonal flooding, and the availability of resources. Occupation and use of the general study area appears to extend over 5,000 to 7,000 years ago, and perhaps longer. The aboriginal inhabitants of Santa Clara Valley, a group known as the "Coastanoan" (also known as the "Ohlone") occupied the central California coast as far east as the Diablo Range. In 1770, the Coastanoan tribelets were politically autonomous groups of 50 to 500 individuals, with an average population of 200.

Initial observations of Native American occupants of the Santa Clara Valley by early exploring parties suggest an intensive and extensive occupation. The expedition under the leadership of Juan Bautista de Anza and Father Pedro Font, passed through north San Jose in early 1776. Anza recorded three native villages in the vicinity of his campsite, and due to some "paths and trails" heading to the south, he concluded that the same tribe of Indians dwelled throughout the entire valley.

The Coastanoan aboriginal lifeway disappeared by 1810 due to the introduction of EuroAmerican diseases, a declining birth rate, and the impact of the mission system. The Coastanoan were transformed from hunters and gatherers into agricultural laborers who lived at the missions and eventually worked at the surrounding ranchos.

Recorded Archaeological Sites

Over the past 25 years, the drainage formed by Guadalupe Creek, east of Camden Avenue has been the subject of a number of archaeological studies as private housing and public projects have altered the terrain. A literature review done at the Northwest Information Center (NWIC) located near Sonoma State University yielded four studies that covered either the proposed wetlands project area itself or its immediate vicinity, resulting in the recording of SCl-362 inside the borders of the proposed wetlands. These reports are discussed below in chronological order.

Archaeological resources in the general vicinity of the proposed project area were first discussed in a 1977 report produced by Holman & Chavez for the Athenour property, which included the housing built along Capitancillos Drive on the south bank of Guadalupe Creek. A field survey turned up archaeological materials along the natural levees adjacent to the creek and in the field south of it. The 1977 report concluded that the floodplain adjacent to

Guadalupe Creek probably never contained an actual Native American occupation area. The report concluded that materials found on the surface were deposited there from flooding activities upstream and that habitation sites either were situated farther above the floodplain, or were situated farther upstream, where in fact several prehistoric sites have been recorded over the past 25 years. The report surmised that any prehistoric settlement areas must have been located at safe distances well above the floodplain of Guadalupe Creek, which would place them either on its northern bank or south of the floodplain in the vicinity of Coleman Road.

Robert Cartier did the first actual surface inspection of the proposed wetlands project area in 1979 for the construction of the Almaden Valley Pipeline along the project site's southwestern boundary. Based upon the discovery of three artifacts on the surface of the pipeline right-of-way, he recorded SCl-362, speculating at the time that this site was actually the result of dumping of material in the general vicinity from the construction of the adjacent housing and/or roadway realignment work. Cartier concluded that pipeline construction would have no effect on a significant archaeological site and did not recommend any form of mitigation.

In 1989, Cartier returned to the general vicinity to conduct a more extensive survey of the Guadalupe Creek drainage, during which he discovered a much wider distribution of stone artifacts. Once again Cartier found scant evidence of prehistoric cultural materials: No materials were retrieved from the backhoe trenching in spite of screening of spoils, and only scant evidence of a prehistoric deposit came out of the hand excavated units. Cartier failed to identify any actual topsoil layers, which could have supported prehistoric occupation. He confirmed his 1979 assessment of the area that the archaeological materials seen on the surface were either the result of historic importation of soils or were deposited there from upstream. He concluded that the scant artifactual materials discovered by him below the surface did not, in fact, represent an actual intact archaeological deposit.

Holman performed a visual inspection of the area in January 2002. Holman noted areas of extensive grading and/or dumping of materials. Most of the flat areas on the property had been modified, supporting Dr. Cartier's contention that the archaeological deposits found there may be the result of the historic introduction of materials from the construction of houses along Capitancillos and Oak Canyon Drives, to the south and west. Materials could also have been deposited from the realignment of Coleman Road along the edge of the project area.

These reports notwithstanding, it is important to note that many of the archaeological sites that have been found in the Santa Clara Valley are located along or near creeks. This is not unexpected given that creeks and streams would have been excellent sources of food and water for Native Americans. Thus, while no cultural resources of significance have been encountered at the site to date, the area is still considered to be archaeologically sensitive. Further, although research associated with SCl-362 has not yielded intact resources of significance, such research can not be characterized as conclusive without additional subsurface testing.

Historic Period

The Guadalupe River system is the focus around which development in the Santa Clara Valley area has prospered. Spanish explorers were the first Europeans to traverse the area in 1769 and 1775. While in search of appropriate locations for the establishment of presidios, missions, and pueblos, they followed the Guadalupe River through the Santa Clara Valley. As previously described, Juan Bautista de Anza and Father Pedro Font traveled through the area and their favorable reports led to the establishment of both *Mission Santa Clara* and the *Pueblo San Jose de Guadalupe* in 1777. Their path became well traveled and is an important local link in El Camino Real, the historic route connecting the missions of Baja and Alta, California. No historic dwellings or related other structures and features have been identified in or adjacent to the project site.

2. Cultural Resources Impacts

Archaeological Impacts

As discussed above, research to date has not encountered intact archaeological resources of significance on the project site. However, given the existence of a recorded archaeological site at this location, and the fact that the project area is considered to be archaeologically sensitive, construction of the project has the potential to impact buried cultural resources of significance. The project, however, includes measures that would avoid or reduce these potentially significant impacts to a less than significant level.

- **With the implementation of measrues included as part of the project, potentially significant impacts to cultural resources would be avoided or reduced to a less than significant level. (Less than Significant Impact with Measures Included in the Project)**

3. Mitigation for Cultural Resources Impacts

While it has been determined that there is a low potential for the discovery of cultural resources during project construction, the potential, nonetheless, exists. Therefore, the following measures are included in the project in order to avoid or reduce potentially significant impacts to possible subsurface prehistoric and historic resources, which could occur as a result of the proposed project.

Discoveries of Cultural Resources

- Archaeological monitoring shall be conducted on the site by a qualified archaeologist during excavation of the project site to the maxium depth planned, to insure that concentrations of artifactual or ecofactual materials and any actual archaeological deposits are identified.

- In the event that archaeological materials (stone, bone or shellfish artifacts or concentrations of these materials) are discovered, or any other indicators of habitation sites (such as evidence of fire in the form of fire altered rock and/or earth, ash or charcoal) are located during construction, it would be the responsibility of the SCVWD to halt work in the area identified as sensitive by the project archaeologist until a plan for its evaluation is submitted for approval. Any archaeological deposits thus proved to be significant under current CEQA guidelines would then require further mitigation in the form of data retrieval and/or archaeological monitoring.

- In the event that any human remains are discovered, it would be the responsibility of the SCVWD to notify the County Coroner's Office of the discovery, who in turn would be obligated to notify the Native American Heritage Commission (NAHC). The NAHC would then identify and notify a Most Likely Descendant of the discovery so the recommendations for the method of exposure and reburial of disturbed remains can be submitted to the project sponsor prior to the resumption of grading operations in the vicinity of identified or suspected burials.

Conclusion: **With the implementation of the above-listed mitigation measures, potentially significant impacts to cultural resources would be avoided or reduced to a less than significant level. (Less Than Significant Impact with Measures Included in the Project)**

J. VISUAL AND AESTHETIC QUALITY

1. Existing Setting

Visual and Aesthetic Character of the Project Site

The project site is vacant and consists of a rural landscape dominated by Coleman Road and the riparian corridor of Guadalupe Creek, as seen on Photos 1 and 2 in the Land Use section of this report. While portions of the site are underlain with fill deposits, the majority of the site is in its natural condition. Only one tree is located in the central portion of the site, with additional trees and shrubs located along the perimeter.

The major visual elements as seen from the project site include Guadalupe Creek, Coleman Road, high voltage transmission lines and towers, Oak Canyon Place and Capitancillos Drive. The project site is visible from Coleman Road, Oak Canyon Place, and Capitancillos Drive.

2. Visual and Aesthetic Impacts

Thresholds of Significance

For the purposes of this project, an aesthetic or visual impact is considered significant if the project would:

- substantially block existing views of scenic vistas or resources; or
- introduce new development that would substantially change the existing visual character or quality of the site and its surroundings from a rural pastoral setting to an urbanized use; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Aesthetic values are very subjective. Particular viewpoints as to what constitutes an adverse visual impact will differ among individuals. The discussion below, therefore, focuses on change in the visual perception and views, without placing value on aesthetic quality of a particular condition.

Alterations to Visual Character from the Proposed Development

The proposed development may introduce a wetland with limited public access as an optional enhancement, to the vacant project site. This would result in more vegetation, a wetland, inlet and outlet structures, and a pathway with viewing area on the project site.

The project site is only visible from the immediate project vicinity. It is not visible from across Guadalupe Creek, nor from across Coleman Road. Photo 3 on the following page is a photograph of an existing wetland in Larkspur in the northern San Francisco Bay area. This wetland is similar in nature to what the proposed wetland may look like approximately three years after project construction. This wetland is not considered to be visually offensive. The additional vegetation on the site may make the site more visually attractive than the existing vacant field. Therefore, the proposed project would not result in significant visual impacts to surrounding land uses.

Light and Glare

The proposed project would not create a new source of light and/or glare, because the project site would not be lighted at night.

♦ **The construction of wetland mitigation on the project site would not result in significant visual/aesthetic impacts to the surrounding neighborhood. (Less than Significant Impact)**

3. Mitigation and Avoidance Measures for Visual/Aesthetic Impacts

The proposed project would not result in significant visual/aesthetic impacts; however, the implementation of the following measures, which are included in the project, would avoid or reduce any residual impacts.

Measures Included in the Project

- The proposed project would be designed to be as aesthetically and visually pleasing as possible. Colored concrete and/or wire mesh fencing, according to SCVWD standards will be used to the extent necessary.
- Upland oak/willow vegetation plantings would be provided along the perimeter of the project site to further screen the site from the surrounding land uses to the south and west of the site, only if approved by the SCVWD Board of Directors as an optional enhancement.
- The project site would be maintained by the SCVWD. This would include the removal of trash and debris, should any accumulate on the site.

Conclusion: **The proposed project would not result in significant impacts to the visual and aesthetic quality of the project area. Implementation of the measures described above would avoid or reduce any potential impacts to visual resources. (Less than Significant Impact)**

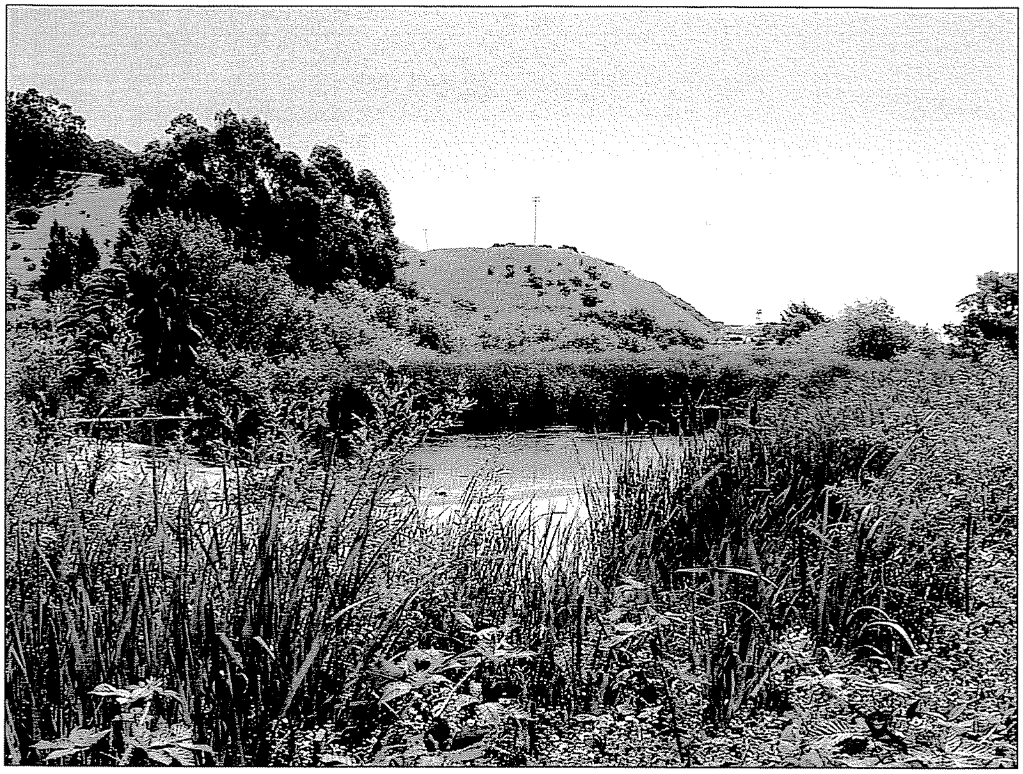

Photo 3: Photo of a wetland site in Larkspur, California. This pond is representative of what the Los Capitancillos Wetland Mitigation Site may look like approximately three years after construction. During the fall draw-down period, however, the pond would be dry.

K. PUBLIC SERVICES

Unlike public facilities and utilities, public services are provided to a community as a whole, usually from a central location or from a defined set of nodes. The resource base for delivery of the service, including physical service delivery mechanisms, is financed on a community-wide basis, usually from a unified or integrated financial system. The service delivery agency can be a city, county, service or other special district. Usually, new development will create an incremental increase in the demand for these services; the amount of the demand will vary widely, depending on both the nature of development (residential vs. industrial, for instance) and the type of service, as well as the specific characteristics of the development (rural residential vs. high density residential).

The impact of a particular project on public services and facilities is generally a fiscal impact. By increasing the demand for a service, a project could cause an increase in the cost of providing the service (more personnel hours to patrol an area, additional fire equipment needed to service a tall building, etc.). That is a fiscal impact; however, not an environmental one. CEQA does not require an analysis of fiscal impacts. CEQA analysis is required if the increased demand is of sufficient size to trigger the need for a new facility (such as a park), because the new facility could have a physical impact on the environment.

If there is no physical impact resulting from the additional service demand, discussion of service impacts can be included in an EIR where the issues may be of concern to the community or decision makers, and where the analysis can contribute to an understanding of the project as a whole. The SCVWD, therefore, includes a discussion of the availability of public services in EIRs prepared for land use and development projects whether or not they result in a physical impact.

1. Existing Setting

Police and Fire Service/Schools

The City of San Jose Police and Fire Departments provide police and fire services to the site. The development of the site with a wetland and potentially, a public access component, would not increase the need for new police or fire stations. By the same token, since the project is not a development project that includes housing, the project would not increase the need for new schools in the project area.

Parks

The proposed project may eliminate unauthorized recreational uses from the project site by constructing a fenced wetland on a portion of the site. This may result in displacing visitors to other parks in the project area, including the T.J. Martin Park (part of a park chain) located to the south of the project site. In addition, if the public access component of the project is approved by the SCVWD Board of Directors, active recreational uses on the site would be replaced with more passive uses. This may also displace park users to parks in the area that allow more active uses.

Given the size of the neighborhood that is using the project site, it is not expected that a significant number of park users would be displaced to other park facilities due to construction of the project, with or without the proposed public access component. A City of San Jose parkchain is located to the south of the site for use by residents of the surrounding neighborhood. For these reasons, the proposed project would not result in significant impacts to parks in the project area.

- **The proposed project would not increase the need for more park facilities within the project area. (No Impact)**

L. ENERGY

Energy Implications

Appendix E of the CEQA Guidelines requires that EIRs include information regarding the energy impacts of the proposed Project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Development of the project would result in the consumption of energy in two forms: 1) the fuel energy consumed by construction vehicles; and 2) bound energy in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and metal.

Construction of the project would result in the consumption of energy, especially in the use of fossil fuels for construction equipment. The long-term use of the project site as a wetland would not use a significant amount of energy. The only energy consumed would be that required to retrieve water from the Almaden Pipeline and to pump water out of the wetland once a year, if required, during the drawdown period.

M. GROWTH-INDUCING IMPACTS

The proposed project site is located within the San Jose city limits and would not include the construction or extension of infrastructure outside of an urban service area, or expansion of services outside of the City. Therefore, the project is not expected to induce growth beyond that of the project itself. The project would create a freshwater wetland within the project area, which would be consistent with the General Plan designation for the project site. Its development would preclude the development of a more intensive land use on the project site, such as high density housing. The project is intended to provide wetland mitigation for past and future SCVWD projects. An additional beneficial impact of the project is to provide a limited recreational/educational use on a site where recreational use is currently not authorized. Therefore, construction of the wetland is not expected to result in substantial growth beyond that which is already planned. Therefore, the construction of Los Capitancillos Freshwater Wetland Mitigation Site would not be growth-inducing.

N. CUMULATIVE IMPACTS

Cumulative impacts, as defined by CEQA, refer to two or more individual effects that, when considered together, are considerable or compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant projects taking place over a period of time. The CEQA Guidelines (Section 15130) state that an EIR should discuss cumulative impacts "when the project's incremental effect is cumulatively considerable". The discussion does not need to be in as great detail as is necessary for project impacts, but it is to be "guided by the standards of practicality and reasonableness". The purpose of the cumulative analysis is to allow decision-makers to better understand the potential impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project.

Therefore, CEQA mandates that the impacts of the proposed Los Capitancillos Wetland Mitigation Site project be analyzed in conjunction with other related past, current, and probable future projects whose impacts might compound or interrelate with those of the project. The projects considered include the Guadalupe Creek Restoration Project, the Downtown San Jose Guadalupe River Project, the Upper and Lower Guadalupe River Flood Protection Projects, and the City of San Jose creek trail proposed for the northern side of Guadalupe Creek. In addition, the City of San Jose Planning Department was consulted, and there are no development projects in the project area that would contribute to a significant cumulative impact.[13] The only project identified by the planning department was the future creek trail project, as previously described.

The Guadalupe Creek Restoration Project and the proposed creek trail project have been described in other sections of this document. The Downtown San Jose Guadalupe River Project and the Upper and Lower Guadalupe River Flood Protection Projects are flood control projects either proposed, under construction, or completed along the Guadalupe River, downstream of the project site. These projects include flood protection elements along the Guadalupe River from Alviso in the north, through Downtown San Jose, to two additional segments from Highway 101 to Interstate 880 and from Interstate 280 to above Blossom Hill Road. Modifications are also proposed along two tributaries, Canoas and Ross Creeks.

It was determined in the Guadalupe Creek Restoration Project EIS/EIR that when considered together, the Downtown San Jose Guadalupe River Project, the Upper and Lower Guadalupe River Flood Protection Projects, the Guadalupe Creek Restoration Project, and the proposed project, would not result in significant cumulative impacts for all resource topics. The nature of this project is such that most of its impacts occur in or immediately adjacent to the project site and would not contribute cumulatively to other construction projects. Further, the impacts are of a type that are specific to the creation of a wetland, including the hazardous materials content of the soils on the site, visual impacts of the project, potential odor and mosquito impacts, and impacts to Guadalupe Creek. Mitigation measures are included in the project that will reduce potential impacts of the project to a less than significant level.

Only construction-related impacts (noise, dust, vehicle exhaust) might make a greater than *de minimus* contribution to cumulative impacts, but only if other construction projects were to occur nearby and at the same time. Biological impacts of the project would only be related to the possible outflows to Guadalupe Creek. Surface water outflows would occur only during significant storm events and these outflows would not increase creek temperatures above the optimum required for the survival of salmonids within the creek. In addition, the project has been designed to reduce or minimize potential thermal impacts to the creek by way of percolation to the groundwater and ultimately, the creek.

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[13] Jean Lin, Planner II, City of San Jose Planning Department, personal communication, April 2002.

Mercury levels in soils on the site were found to be below state and federal hazardous materials criterion (20 mg/kg). The project would remove mercury-containing soils from the portion of the site to be used as a wetland and clean, wetland cover soils would be imported for use as the wetland liner. Therefore, the construction of the project would result in less mercury on the site than currently exists.

The proposed Los Capitancillos Wetland Mitigation Site project would not significantly contribute to the impacts of the Guadalupe Creek Restoration Project or other development projects that may be under construction in the project area. Mitigation measures are included in the project that would reduce all impacts associated with the proposed project to a less than significant level. In fact, most of the impacts are construction-related, and are therefore, minor and temporary. The purpose of the project is to create wetland and riparian habitat to meet past, present, and potentially, future mitigation obligations of the SCVWD. Its construction would result in the creation of a wetland with a limited, optional public access component on an under-utilized site in the Almaden Valley. Therefore, the project, in combination with the Guadalupe Creek Restoration project, is not expected to result in significant adverse cumulative impacts due to the short-term nature of most of these impacts.

In terms of ecological and wildlife habitat, the cumulative impacts would be beneficial. Wetland and riparian habitats, which have high ecological value, have substantially diminished due to ongoing development throughout the bay area. This project is among a series of project in recent years that are attempting to restore some of this lost habitat.

Conclusion: **The proposed project would not result in significant cumulative impacts. (Less than Significant Impact)**

SECTION III. DESCRIPTION OF ALTERNATIVES

A. DEVELOPMENT OF ALTERNATIVES

Section 15126.6 of the CEQA Guidelines requires that an EIR describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the project objectives and would avoid or considerably reduce any of the significant impacts of the proposed project. In addition, the No Project Alternative must be analyzed in the document. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.

The purpose of this section is to ascertain whether there are alternatives of design, scope, or location which would substantially lessen the significant impacts of the proposed project, even if those alternatives "impede to some degree the attainment of the project objectives" or are more expensive [Section 15126.6(b)].

The planning study process included a comprehensive evaluation of the entire hydrologic/hydraulic system of Guadalupe Creek. As a part of the planning process, soil testing was completed on the site to determine the suitability of the soils on the site for the construction of a wetland, and also to determine the extent of the mercury contamination on the site. Geologic constraints of the site were also determined.

Conceptual Alternatives

During the planning process, it was determined that with the excavation and removal of soils on the site, the project was viable at the proposed location. Eleven various wetland configurations were considered for the proposed project, as shown on Table 7.

The eleven wetland configurations that were considered for the proposed project are identified as Options A through M in Table 7. The wetland configuration options are briefly described below.

A. No Action – The site would remain in its current state as ruderal upland habitat.

B. Alternative Location – The appropriate wetland configuration and water source for this alternative would depend, in significant part, on the characteristics of the site.

C. Large, Single Pond, Near-Perennial – This configuration would consist of a single wetland "pond" of the largest size that can be accommodated on the Los Capitancillos site (3.5-4.5 acres). The pond would be deep enough to allow a significant expanse of open water. The Almaden Valley pipeline would be the water source for a near-perennial hydrologic regime. This hydrologic regime would provide ponded water in the wetland year-round, except for a period during which the pond is drained to prevent bullfrog colonization.

D. As Option C but Perennial – This configuration would consist of the same wetland layout as option C, but a perennial hydrologic regime would provide ponded water in the wetland throughout the year, with no annual draining.

E. As Option C but Smaller – This configuration would consist of a single pond wetland layout that is smaller than that described in option C (3.0-3.5 acres), with a near-perennial hydrologic regime.

F. As Option C but Multiple Ponds – This layout would consist of two or more wetland ponds on the Los Capitancillos site in a "stepped" configuration, following the gently sloping topography of the site. Each pond would have a near-perennial hydrologic regime.

G. As Option C but Seasonal – This configuration would consist of the same wetland layout as Option C, but a seasonal hydrologic regime would allow the wetland to dry out during the summer season.

H. As Option C but Shallow - This configuration would consist of a single pond wetland pond that is shallower than that described in option C, with a near-perennial hydrologic regime. While not initially fully planted, it would likely be colonized with emergent vegetation over time.

I. As Option C but No/Less Open Water - This configuration would consist of a single wetland pond that is more extensively planted with emergent wetland vegetation and includes little or no open water. As Option C, this option would have a near-perennial hydrologic regime.

J. As Option C but Lower Elevation; Groundwater Water Source – This configuration would consist of a similar wetland layout to Option C. However, the wetland would be excavated to a lower elevation in order to access groundwater as a water source. As a result, this option would have a perennial hydrologic regime.

K. As Option C but Groundwater Water Source (pumped) - This configuration would consist of a similar wetland layout and hydrologic regime to Option C. However, the water source would be groundwater, supplied to the wetland through pumping.

L. As Option C but Creek Water Source (pumped) - This configuration would consist of a similar wetland layout and hydrologic regime to Option C. However, the water source would be Guadalupe Creek, supplied to the wetland through pumping.

M. As Option G but Floodplain Water Source (creek flood flows) – This configuration would consist of a floodplain wetland layout that would rely on overflows from Guadalupe Creek as a water source. This option would therefore have a seasonal hydrologic regime.

These conceptual options were evaluated against the following planning criteria to determine which could be screened out from consideration as project alternatives:

1. The wetland design would create 3 – 4.5 acres of new freshwater wetland habitat and would identify other restoration and enhancement opportunities.
2. Preference would be given to wetland designs that provide high potential habitat value (e.g. habitat diversity), in order to improve the likelihood that the project would be accepted by regulatory agencies as wetland mitigation.

3. The project would identify optional public access opportunities for limited recreational uses such as walking and bird watching and be of value to the community.

4. The project would meet the December 2002 construction deadline.

5. The wetland design would minimize impacts associated with mosquitoes, algae, odors, and anaerobic conditions.

6. The wetland design and operation would minimize opportunities for bullfrog reproduction.

7. The wetland design and operation would minimize outflow of wetland waters into Guadalupe Creek to limit potential thermal impacts to the creek.

8. The wetland design would minimize the potential for mercury methylation.

As shown in Table 7, the three alternatives that met all of the planning criteria were the large, single pond, near-perennial; the smaller single pond, near-perennial wetland; and the seasonal wetland (Options C, E and G). The near-perennial alternatives (Options C and E) have high habitat values, low bullfrog reproduction potential, low mercury and thermal impacts, allow optional public access, have a moderate mosquito and odor impacts, can be constructed by December 2002, and would have a moderate cost. The seasonal wetland (Option G) would have the same characteristics, but would provide moderate habitat values while having fewer mosquito and odor impacts and lower costs. The seasonal wetland would be dry in the spring and summer and may not be as visually pleasing while it is dry. The near-perennial hydrologic regime would allow for ponding of the site for the majority of the year and would support diverse habitat types including open water, tall emergent marsh, wetland ecotone, and riparian habitat. The near-perennial hydrologic regime also provides open water habitat throughout most of the year. The inclusion of open water in the habitat mosaic will substantially increase the wildlife species richness and diversity associated with the wetland relative to one comprising primarily emergent vegetation, which would support higher numbers of individuals but fewer species. Open water will provide foraging and roosting areas for waterfowl, which will also use the tall emergent marsh plants for cover and foraging. Since the larger pond version of the near-perennial wetland (Option C) allowed a greater amount of mitigation acreage and greater habitat diversity while having similar environmental impacts, it was chosen as the preferred alternative.

Table 7. Los Capitancillos Fresh Water Wetland Mitigation Project - Comparison of Conceptual Design Alternatives

	Wetland Mitigation Acreage	**Habitat Value**	**Bullfrog Reproduction**	**Mercury Impacts**	**Thermal Impacts**	**Public Access to the Los Capitancillos Site**	**Nuisances at the Los Capitancillos Site**	**December 2002 Construction Deadline**	**Cost**
Option	*Goal: Maximum Area; Minimum Req: 3 acres*	*Wildlife Diversity*	*Bullfrog Reproduction Potential*	*Potential for Mercury Methylation*	*Potential for Warming Guadalupe Creek*	*Provides Limited Public Access?*	*Risk of mosquitos, algae, odors*	*Could Meet Construction Deadline?*	*Relative Cost (low-mod-high)*
A. No Action	0 acres	Low	None	None	None	Current Access	None	No	Low
B. Alternative Location	At least 3 acres	Depends on Site and Design	Depends on Site and Design	Depends on Site and Design	Depends on Site and Design	Current Access	None	No	Depends on Site and Design
C. Large, Single Pond, Near-Perennial	3.5 - 4.5 acres	High	Low	Low	Low	Yes	Moderate	Yes	Moderate
D. As "C" but Perennial	3.5 - 4.5 acres	High	High	Low	Low	Yes	Moderate	Yes	Moderate
E. As "C" but Smaller	3.0 - 3.5 acres	High	Low	Low	Low	Yes	Moderate	Yes	Moderate
F. As "C" but Multiple Ponds	3.5 - 4.5 acres	High	Low	Low	Low	Yes	High	Yes	Moderate - High
G. As "C" but Seasonal	3.5 - 4.5 acres	Moderate	Low	Low	Low	Yes	Low	Yes	Low
H. As "C" but Shallow	3.5 - 4.5 acres	Moderate	Low	Low	Low	Yes	High	Yes	Low - Moderate
I. As "C" but No/Less Open Water	3.5 - 4.5 acres	Moderate	Low	Low	Low	Yes	High	Yes	Moderate
J. As "C" but Lower Elevation; Groundwater Water Source	<3.5 acres	High	High	Moderate - High	Low	Yes	Moderate	Yes	High
K. As "C" but Groundwater Water Source (pumped)	3.5 - 4.5 acres	High	Low	Moderate	Low	Yes	Moderate	Yes	High
L. As "C" but Creek Water Source (pumped)	3.5 - 4.5 acres	Moderate	Low	High	Low	Yes	Moderate	Yes	Moderate - High
M. Floodplain Water Source (creek flood flows)	>4.5 acres	Moderate - High	Low	Moderate	Low	Yes	Low	Yes	Moderate - High

shading indicates failure to meet project planning criteria

B. ALTERNATIVES TO THE PROPOSED PROJECT

This section describes a reasonable range of alternatives to the project, as required by the CEQA. These alternatives include the No Project Alternative, the Reduced Scale Alternative, the Seasonal Wetland Alternative, and the Alternative Location.

1. No Project Alternative

Evaluation of the No Project Alternative is required under state environmental regulations. In this case, the No Project Alternative would consist of not constructing the project. The No Project Alternative would avoid all of the environmental impacts of the Project, as described in this document. The No Project Alternative would allow that the site remains vacant.

The No Project Alternative would not; however, meet the identified objectives of the project, which is to construct permanent wetland and riparian habitat that meets or exceeds three acres, to a maximum of 4.5 acres as required in the SCVWD Multi-Year Maintenance Program of 2002, by December 2002. It would also not allow the Board of Directors to approve optional enhancements for the project including a limited, public access component for the project, and/or additional oak/willow plantings in the eastern portion of the project site along the outlet swale.

The No Project Alternative would have low wildlife diversity, since it would allow the site to remain as ruderal habitat. With the No Project Alternative, there would be no potential for mercury or thermal impacts as a result of the project. There would also be no construction related traffic, noise, or air quality impacts, mosquito or odor impacts to the surrounding neighborhood, and unauthorized use of the site by the public would continue to occur. When compared to other alternatives proposed for the site, the No Project Alternative would not meet the objectives of the project. For the reason described above, the No Project Alternative was determined to be inconsistent with the goals of the Project, and therefore, it was eliminated from further consideration.

2. Design Alternatives

As part of the Engineer's Report prepared for the project, eleven conceptual design options were evaluated against the project objectives, as previously stated. Of these, three alternatives were identified that provided moderate to high relative habitat value, low to moderate mosquito risks, low bullfrog reproduction potential, and low mercury methylation potential. One of these options was the proposed project, therefore, the other two alternative designs are described below.

Reduced Scale, Near-Perennial Wetland

This alternative consists of a smaller (approximately 3.0 acre), near-perennial wetland on the project site. This smaller wetland would have a similar habitat mix and operational requirements as the proposed project. It would include all of the components of the proposed project, including site excavation, inlet and outlet works, and limited, optional public access.

While it would have impacts similar to the proposed project, it would not provide as much mitigation area as the proposed project. The three acres of wetland described in this alternative would allow the SCVWD meet its mitigation obligations for past projects, but would allow very little additional acreage for future projects.

This alternative (Alternative E. in Table 7) was not chosen as the preferred alternative because although it would have similar environmental impacts, it would only provide three acres of mitigation habitat. This alternative would provide high habitat value, low potential for bullfrog reproduction, low potential for mercury or thermal impacts, potential for public access, moderate mosquito and odor impacts, it could be constructed by December 2002, and would have moderate costs associated with it. The smaller wetland size would have similar construction-related impacts as the proposed project; however, they may be reduced in scale since the wetland would be smaller. For example, the number of truck trips expected with the smaller wetland would be slightly smaller.

While this alternative would have environmental impacts very similar to those of the proposed project, it would only provide 3.0 acres of habitat as opposed to 4.4 acres.

Seasonal Wetland

This alternative is a wetland of the same size as the proposed alternative; however, the wetland would be allowed to dry out during the spring and summer months. The water levels in the wetland would be controlled by inlet and outlet works during the wet season; however, operational requirements would be reduced during the summer. This alternative would have the same optional public access component as proposed for the project.

This alternative would be able to provide the same amount of mitigation area as the proposed project; however, the diversity of habitat types and corresponding wildlife values would be lower than the proposed project. For this reason, this alternative may not meet the regulatory agency's requirements for providing mitigation habitat for past SCVWD in-stream maintenance projects. Under this alternative, impacts associated with mosquitoes and odors may be reduced since the pond would be drier for longer periods of time. This alternative would use less water than the near-perennial alternatives and require less maintenance. Visual impacts may be greater; however, since the wetland would be dry for a longer period of time, which may be considered less attractive than a near-perennial wetland. Construction related impacts would be the same as the proposed project.

The seasonal wetland design was not chosen as the preferred alternative since it would have impacts similar to the proposed project, while providing fewer habitat types and lower wildlife values when compared to the proposed project. Since the wetland would be fenced, regardless of which type was constructed, safety and security impacts would be similar to the proposed project. In addition, surrounding neighbors voiced their concerns regarding the visual impact of a seasonal wetland. For these reasons, this alternative was not chosen as the preferred alternative.

3. Alternative Location

An alternative location for the proposed wetland was identified at the northeast corner of the intersection of Camden Avenue and Coleman Road, approximately 0.625 miles to the southwest of the project site. This approximately three-acre, SCVWD-owned site is adjacent to and to the north of Guadalupe Creek between a bend in the creek and Camden Avenue, as shown on Figure 11. The vacant site is linear in shape, as shown on Photos 4 and 5. Capitancillos Drive is located on the opposite side of the creek from the alternative site.

This site is similar in nature to the project site; however, it has greater constraints for development as a wetland than the proposed site. If it is determined that the site is suitable for the creation of a wetland, it would only be able to supply enough acreage for the SCVWD to meet its past mitigation obligations. The most significant constraint however, is the lack of a water source for the site. Water from Guadalupe Creek would not be a viable alternative due to the presence of mercury in its water and sediment. While an extension of the Almaden Pipeline to the site may be possible, it would be prohibitively expensive and would result in significant construction-related impacts to both residents of the Oak Canyon residential area, and potentially impacts to the creek itself. For these reasons, if this site were chosen as the location for the project, a seasonal wetland would be the most viable choice for the site. As previously discussed, a seasonal wetland would not provide as high of habitat values for the proposed project.

Since the alternative location site is adjacent to Guadalupe Creek, it most likely has mercury within its soils, similar to the project site. This soil would also need to be removed and replaced with wetland cover soils. Construction-related impacts associated with the excavation and transport of this soil would be similar to the proposed project, although the alternative site is not located as close to residential uses as the project site. The alternative site would also be more visible to the project area as it is located on a busy corner in south San Jose. This may also affect the wildlife values for the alternative location site.

Finally, the alternative location site is located on the northern side of Guadalupe Creek, which is the planned location for the creek trail, as previously described. The construction of a wetland on the alternative site may preclude the extension of this trail along the northern side of the creek.

The alternative location site would result in impacts similar to the proposed project, especially construction-related impacts. Due to the reduced scale of this alternative; however, these impacts may be less overall when compared to the proposed project. The lack of a water source for the wetland, while not insurmountable, may result in additional construction related and biological impacts. Impacts to Guadalupe Creek in terms of discharge would be similar to the proposed project. The alternative location would not provide as much mitigation area as the proposed project, with similar environmental impacts. For this reason, it is believed that this alternative would not adequately meet the project's goals and objectives.

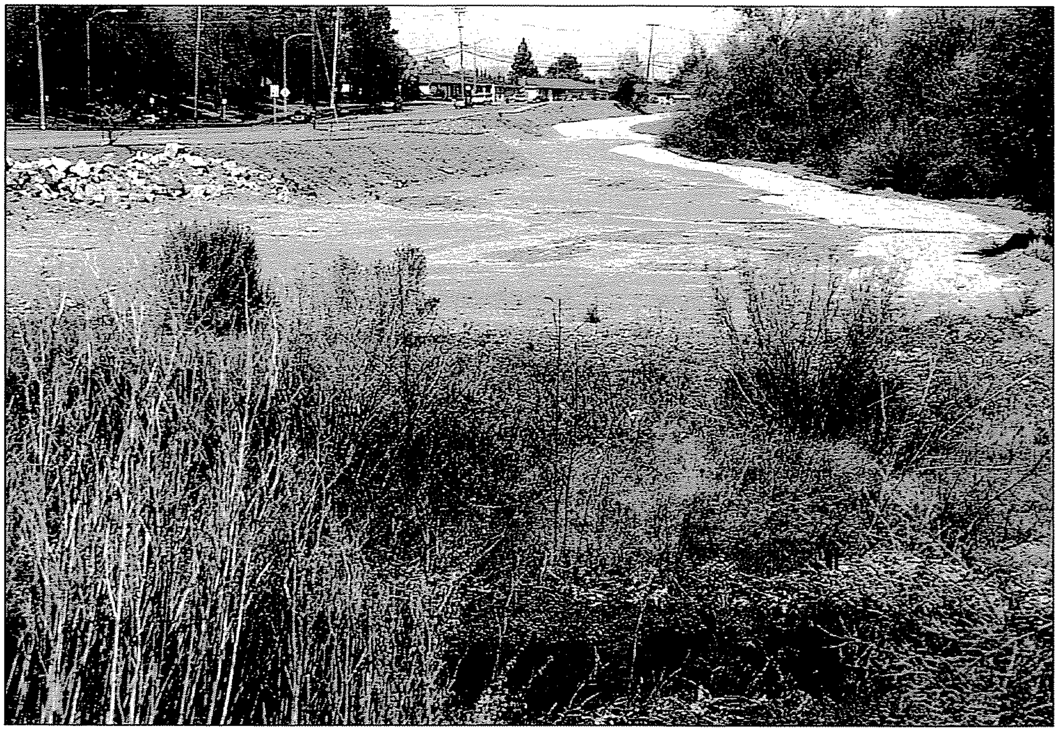


Photo 4: View of the Alternate Location wetland site, located at the northeast corner of the Coleman Road/Camden Avenue intersection. Guadalupe Creek is in the forefront of the photo.

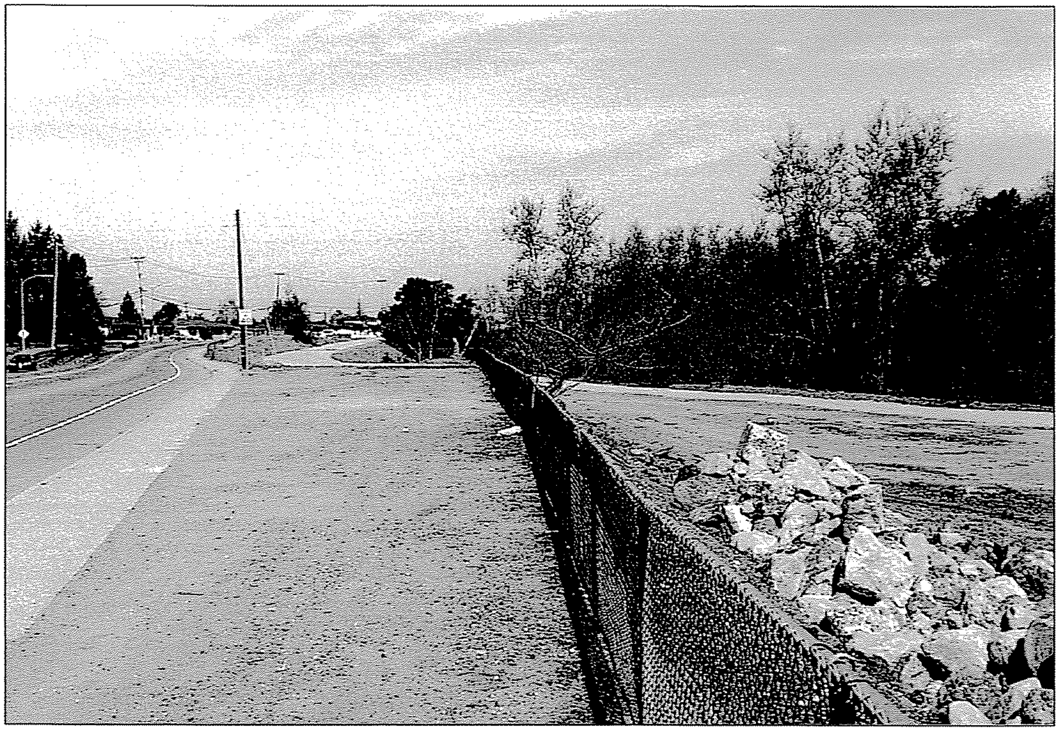
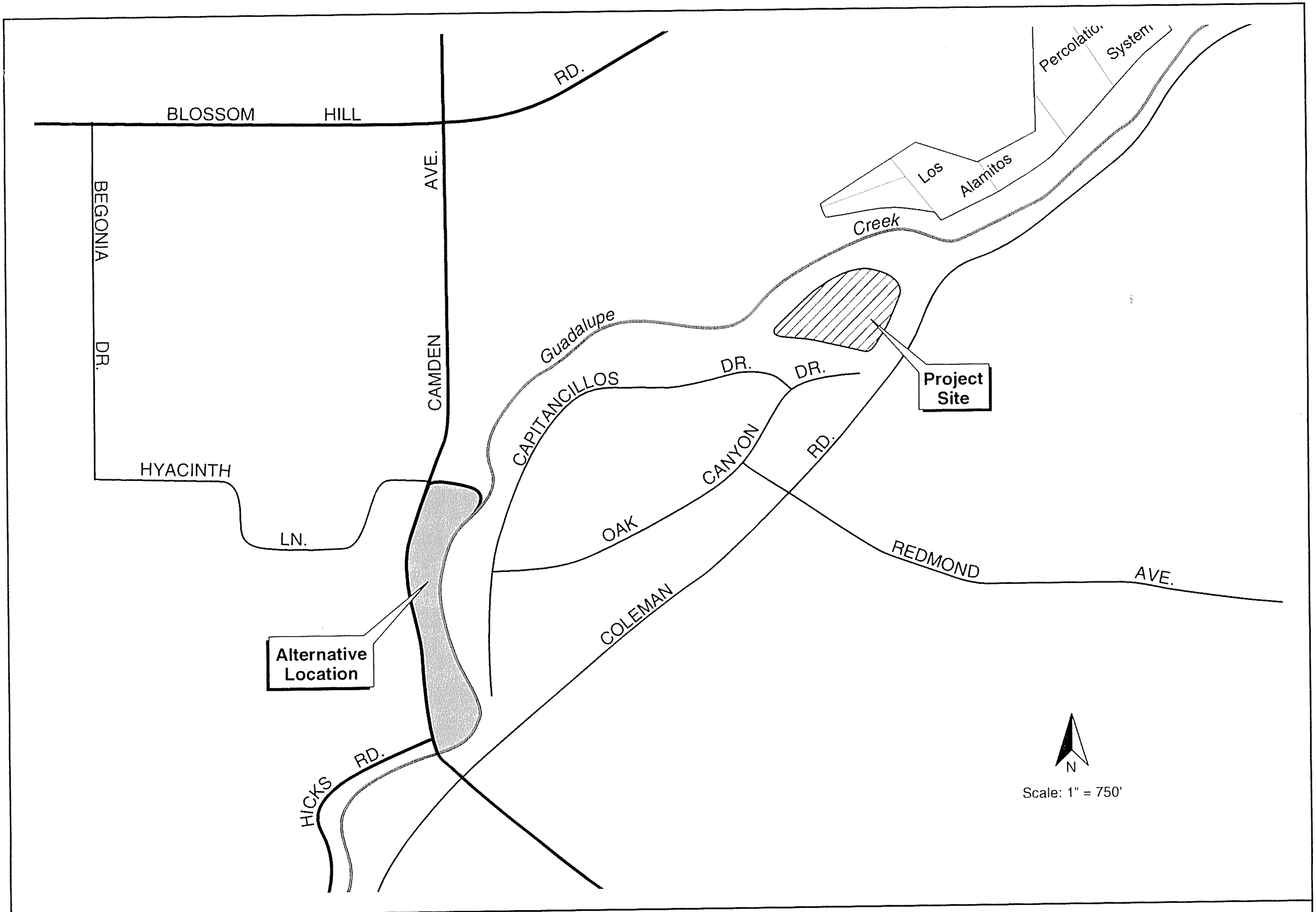


Photo 5: View of the Alternate Location wetland site, looking to the north. Camden Avenue can be seen to the left.

PHOTOS 4 AND 5



ALTERNATIVE SITE LOCATION MAP

FIGURE 11

SECTION IV. SIGNIFICANT EFFECTS WHICH CANNOT BE AVOIDED

If this project is implemented it would not result in any CEQA-defined significant unavoidable impacts.

SECTION V. IRREVERSIBLE ENVIRONMENTAL CHANGES

Irreversible changes to the environment, as defined by the CEQA, would result with the construction activities. The project would result in irreversible changes by constructing a wetland on a presently vacant/undeveloped site. Other irreversible changes associated with the project are the future use of nonrenewable resources during construction, including concrete, metal, wood, and petroleum products. Incrementally; however, these changes are not significant.

SECTION VI. SCOPING AND COORDINATION WITH AGENCIES AND THE PUBLIC

As part of the scoping process for the Engineer's Report and the Environmental Impact Report for the proposed project, meetings were held with both the regulatory agencies and the public. During preliminary project design, two inter-agencies meetings were held at the U.S. Army Corps of Engineers (USACE). The first was held on March 14, 2000. In attendance were representatives of the USACE, the California Department of Fish and Game (CDFG), the SCVWD, and the consultant team. The second meeting was held on September 12, 2001, again, at the USACE offices. In attendance were representatives of the USACE, CDFG, the Regional Water Quality Control Board, the Environmental Protection Agency, SCVWD, and the consultant team. An additional meeting was held on November 2, 2000 with staff of the Regional Water Quality Control Board.

A public scoping meeting was held on March 27, 2001 to get input on the project from residents who live near the site and also from local trustee agencies. A subsequent meeting was held on May 30, 2001 to present information on the wetland design and collect feed-back from the public and trustee agencies.

On October 1, 2001, the Santa Clara Valley Water District issued a Notice of Preparation (NOP) for this EIR to federal, state, regional, and local governmental agencies, as required by CEQA. Included in the NOP was a description of the proposed project and the issues to be addressed in this EIR. These materials are included as Appendix A of this EIR. The issues raised in the comments are addressed within this EIR.

An additional public hearing will be conducted by the SCVWD during the public review period of the Draft EIR. The public hearing will be held to allow the public and interested groups who have not formally commented on the documents to voice their opinions for the public record. Notices of these meetings will be mailed to nearby residents and interested community groups. Noticing information will also be posted on the SCVWD's website.

SECTION VII. REPORT AUTHOR AND CONSULTANTS

AUTHOR

Santa Clara Valley Water District

Beau Goldie, Assistant Operating Officer
Belinda Allen, Senior Project Manager

CONSULTANTS

David J. Powers and Associates, Inc.
Environmental Consultants and Planners
San Jose, California

John Hesler, Principal
Jodi Starbird, Project Manager
Jan Novak, Researcher
Aura DeMare, Graphic Artist

Philip Williams and Associates, Ltd.
Consultants in Hydrology
San Francisco, California

Elizabeth Andrews, P.E., Principal
Jeremy Lowe, Senior Associate
Christie Beeman, Project Engineer
Mark Lindley, Project Engineer

Miley Holman & Associates
Archaeological Consultants
San Francisco, California

Miley Holman, Principal

H.T. Harvey & Assoc.
Ecological Consultants
San Jose, CA

Daniel Stephens, B.S., Principal, Senior Restoration Ecologist
Patrick Reynolds, M.S.., Division Head, Restoration Ecologist
Max Busnardo, M.S., Project Manager, Restoration Ecologist

Scott Terrill, Ph.D., Senior Wildlife Ecologist
Patrick Boursier, Ph.D., Senior Plant Ecologist
John Bourgeois, M.S., Restoration Ecologist
Thomas Ryan, M.S., Wildlife Ecologist
Andrew Dilworth, B.S., Botanist

Parikh Consultants, Inc.
Geotechnical Consultants
Milpitas, CA

Gary R. Parikh, G.E., Project Manager

Tetra Tech, Inc
Geologists

Karen Summers, Project Manager

SECTION VIII. REFERENCES

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E.I.R. Appendices

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APPENDIX A:

NOTICE OF PREPARATION AND RESPONSES

NOTICE OF PREPARATION

FOR A
DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE LOS CAPITANCILLOS FRESHWATER WETLAND MITIGATION PROJECT

PROJECT APPLICANT: Santa Clara Valley Water District

APN: 567-25-006

As the Lead Agency, the Santa Clara Valley Water District will prepare an Environmental Impact Report (EIR) for the above-referenced Project and would like your views regarding the scope and content of the environmental information to be addressed in the EIR. This EIR may be used by your agency when considering approvals for this project.

The project description, location, and probable environmental effects which will be analyzed for the project are attached.

According to State law, the deadline for your response is 30 day's after receipt of this notice; however, we would appreciate an earlier response, if possible. Please identify a contact person, and send your response to:

Santa Clara Valley Water District
Attn: Belinda Allen
5750 Almaden Expressway
San Jose, CA 95118
Phone: (408) 265-2607 extension 2644
Belindaa@scvwd.dst.ca.us

Additional information on this project is posted on our website at www.heynoah.com.

Stan M Williams

Stanley M. Williams
Chief Executive Officer

Date: October 1, 2001

NOTICE OF PREPARATION
OF AN ENVIRONMENTAL IMPACT REPORT
FOR THE LOS CAPITANCILLOS FRESHWATER
WETLAND MITIGATION PROJECT

September 2001

Introduction

The purpose of an Environmental Impact Report (EIR) is to inform decision-makers and the general public of the environmental effects of proposed projects that an agency may implement or approve. The EIR process is intended to provide information sufficient to evaluate a project and its potential for significant impacts on the environment; to examine methods of reducing adverse impacts; and to consider alternatives to the project.

The EIR for the proposed project will be prepared and processed in accordance with the California Environmental Quality Act (CEQA) of 1970, as amended. In accordance with the requirements of CEQA, the EIR will include:

- A summary of the project,
- A project description,
- A discussion of the project's consistency with relevant plans, goals, and policies,
- A description of the existing environmental setting, potential environmental impacts, and mitigation measures,
- Alternatives to the project as proposed,
- Environmental consequences, including (a) any significant environmental effects which cannot be avoided if the project is implemented; (b) any significant irreversible and irretrievable commitments of resources; (c) the growth inducing impacts of the proposed project; and (d) cumulative impacts.

Project Location

The proposed project site is located on a broad and relatively level floodplain terrace along the southern bank of Guadalupe Creek, just downstream of Masson Dam, in the Almaden Valley area of south San Jose, as shown on Figures 1 and 2. The site is bounded by Guadalupe Creek on the north, Coleman Road to the east, Oak Canyon Place to the south, and Capitancillos Drive to the west.

Project Description

The proposed project is the construction of a 3 to approximately 3.5-acre freshwater wetland on a 32 acre parcel. The area proposed to become wetland is currently an open field adjacent to a creek and a residential neighborhood. The remaining portion of the parcel is designated to be part of the Guadalupe Creek Restoration Project which is adjacent to the project site. The project is being proposed by the Santa Clara Valley Water District ("District") in order to create wetland area as mitigation for sediment removal projects that the District performed under emergency conditions in 1997. Mitigation area would also be provided by the project for the District's Year

2000 Stream Maintenance Project. Additional wetland acreage, if available, will be applied toward future District projects as part of a proposed Multi Year Stream Maintenance Program.

The project is expected to include the construction of either a seasonal (dry in the summer) or near-perennial (dry for approximately 2-4 weeks in the fall) wetland to include a mosaic of open water, marshland, riparian, and upland habitat types. Water depths are expected to range from less than one foot at the edges to 6 feet in the open water areas. Water would be supplied to the site by way of the Almaden Valley Pipeline, located underground and adjacent to the western boundary of the site.

It is anticipated that construction will include the over-excavation of the existing soils on the site and the installation of a layer of clean wetland cover soil. This imported wetland cover soil will be necessary in order to provide a growing medium for emergent wetland vegetation and invertebrate species requiring water for development. Existing soils on the site contain mercury at levels that should not be in direct contact with the wetland, therefore, the soils excavated from the site will be removed and transported to an appropriate landfill for disposal or reused on site away from wetland contact.

A berm will be constructed between Guadalupe Creek and the proposed wetland as part of a previous project, the Guadalupe Creek Restoration Project from Almaden Expressway to Masson Dam. The Guadalupe Creek Restoration Project creek grading and non-engineered berm, in combination, will maintain the neighborhood's existing flood protection which has been provided by the Los Capitancillos project site as a floodplain. The primary purpose of the berm is to protect the proposed wetland from mercury-containing sediment known to be located within the creek and that could be mobilized during flood events.

The design minimizes surface outflows from the proposed wetland to the Guadalupe Creek by balancing inflows (rainfall and pipeline) with losses (evaporation and percolation). The only anticipated transfer of water to the creek will be to protect against flooding during larger storm events. Regular drainage of the pond will be by percolation through the cover soil and by infiltration in an existing drainage swale, which lies at the eastern end of the site leading to the Guadalupe Creek. This swale will be graded to increase infiltration. Riparian fringe vegetation will be planted along the swale alignment. Water infiltration will occur along this drainage. Outfall to the creek should be minimal; water temperatures will be monitored as part of the project to ensure the avoidance of thermal impacts to the creek.

The project may also include construction and maintenance of the following: 1) a public access component, including a trail and/or interpretive signage, 2) security fencing, and 3) swallow and bat nest boxes for mosquito control.

Potential Environmental Impacts of the Project

The EIR will identify the significant environmental effects anticipated to result from development of the project as proposed. The EIR will include at least the following specific environmental categories related to the proposed project:

1. Land Use

The EIR will describe the existing land uses within the project area and in adjacent areas, and the previous uses of the site. Land use impacts which would occur as a result of the proposed project will be described, including compatibility with existing land uses in the project area. Mitigation measures will be included for potential impacts, if necessary.

2. Transportation and Circulation

It is not anticipated that the project would result in traffic or circulation impacts since the project will most likely not be providing parking and public access is anticipated to be provided primarily for the existing adjacent neighborhood. There may be temporary impacts due to construction related activities.

3. Air Quality

The EIR will address the regional air quality conditions in the San Francisco Bay Area and the air quality impacts from the project, including temporary construction related impacts such as vehicle exhaust and fugitive dust. Mitigation measures and Best Management Practices will be included, as necessary.

4. Noise

The EIR will identify noise impacts as they relate to the proposed project. Noise impacts are expected to be primarily related to project construction. Mitigation measures and Best Management Practices to reduce noise impacts will be identified, if necessary.

5. Geology and Soils

The EIR will address the general soil characteristics of the site and potential impacts associated with the creation of a wetland on the site. Design techniques which reduce potential impacts to a less than significant level will be described.

6. Vegetation and Wildlife

This section would identify impacts on species and their habitats, which would occur as a result of the proposed project and would also identify any mitigation measures for these impacts, if necessary. Potential impacts to the adjacent Guadalupe Creek will be addressed, and appropriate mitigation measures for biological impacts will be identified.

7. Cultural Resources

The EIR will include a discussion of cultural resources, based on the results of a cultural resource assessment to be prepared for the project. Mitigation measures will also be included for impacts, if necessary.

8. Hydrology and Drainage

The EIR will address flooding, drainage, and water quality impacts which may occur as a result of the proposed project. Potential water quality impacts and conformance with the Santa Clara Valley Urban Runoff Pollution Prevention Program will be described. Mitigation measures will be included for impacts, if necessary.

9. Hazardous Materials

The EIR will identify impacts that may be associated with hazardous materials on the proposed project site, including the presence of mercury. The EIR will also identify mitigation measures for these impacts, if necessary.

10. Visual Resources

The EIR will describe the existing visual setting of the project area in terms of visual conditions. Potential visual impacts will be identified and mitigation measures will be included, if warranted.

11. Utilities and Service Systems

The EIR will examine the impacts of the proposed project on public services, including utilities such as storm sewers and water supply.

12. Availability of Public Services

The EIR will address the availability of public facilities and service systems and the potential for the project to require the construction of new facilities. This discussion will include a review of added demand that may be placed on parks or other recreational sites in the area due to conversion of this site; the site has been used for unauthorized recreation. Also, the discussion will include a review of the effects on the provision of police and fire services that would occur as a result of the project.

13. Energy

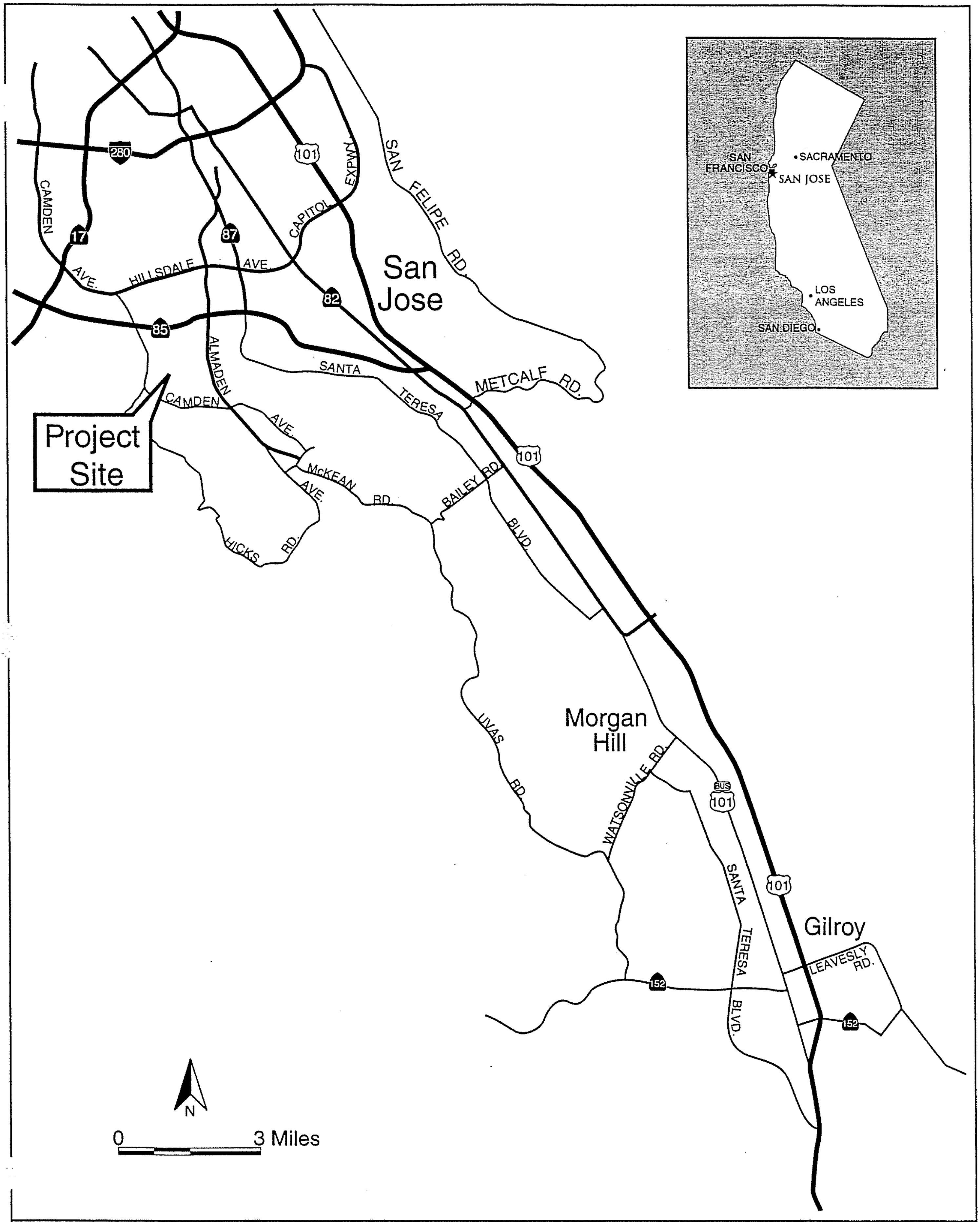
In conformance with CEQA Section 15126(c), the EIR will identify the potential for the project to result in energy impacts and the conservation measures included in the project to avoid significant energy impacts.

14. Alternatives

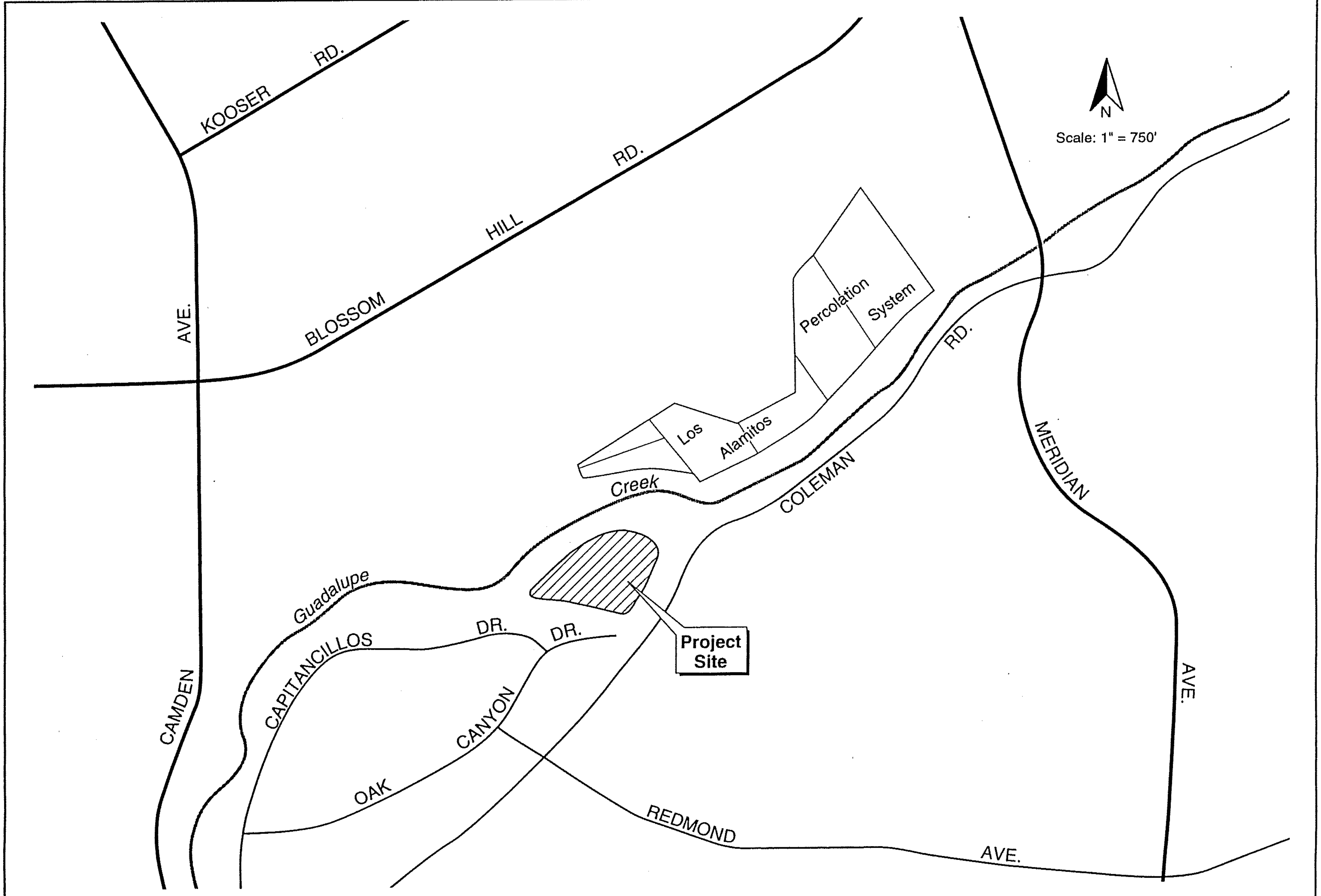
The EIR will examine alternatives to the proposed project including a "No Project" alternative and a full range of action alternatives, including an off-site alternative.

15. Cumulative Impacts

The EIR will include a Cumulative Impacts section that will address the potentially significant cumulative impacts of the project when considered with other past, present, and reasonably foreseeable future projects in the area. The analysis will cover all subject areas discussed in the EIR (e.g., biology, air quality, noise) and will specify which of the areas are anticipated to experience significant cumulative impacts.



REGIONAL MAP FIGURE 1



VICINITY MAP

FIGURE 2

File: 620417.1331

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH

Gray Davis
GOVERNOR

Steven A. Nissen
DIRECTOR

Notice of Preparation

October 1, 2001

To: Reviewing Agencies

Re: Los Capitancillos Freshwater Wetland Mitigation Project
SCH# 2001102014

Attached for your review and comment is the Notice of Preparation (NOP) for the Los Capitancillos Freshwater Wetland Mitigation Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Belinda Allen
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Katie Shulte Joung
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH#	2001102014
Project Title	Los Capitancillos Freshwater Wetland Mitigation Project
Lead Agency	Santa Clara Valley Water District

Type	NOP Notice of Preparation
Description	The proposed project is the construction of a 3 to approximately 3.5-acre freshwater wetland on a 32 acre parcel. The area proposed to become wetland is currently an open field adjacent to a creek and residential neighborhood. The project is being proposed by the "SCVWD" in order to create wetland area as mitigation for sediment removal projects that the District performed under emergency conditions in 1997.

Lead Agency Contact

Name	Belinda Allen		
Agency	Santa Clara Valley Water District	**Fax**	
Phone	408.265.2607 x2644		
email			
Address	5750 Almaden Expressway	**State**	CA **Zip** 95118
City	San Jose		

Project Location

County	Santa Clara						
City	San Jose						
Region							
Cross Streets	Coleman Road and Oak Canyon Drive						
Parcel No.	567-25-006						
Township		**Range**		**Section**		**Base**	

Proximity to:

Highways	
Airports	
Railways	
Waterways	Guadalupe Creek
Schools	Guadalupe Elementary
Land Use	Vacant field A (PD) Public Park open space

Project Issues	Aesthetic/Visual; Archaeologic-Historic; Drainage/Absorption; Fiscal Impacts; Flood Plain/Flooding; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects
Reviewing Agencies	Resources Agency; Department of Conservation; Office of Historic Preservation; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; Department of Fish and Game, Region 3; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Office of Emergency Services; Caltrans, District 4; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 2

Date Received	10/01/2001	**Start of Review**	10/01/2001	**End of Review**	10/31/2001

Note: Blanks in data fields result from insufficient information provided by lead agency.

File: 620418-1331
recd 10/25/01

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY
GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
P O BOX 23660
OAKLAND, CA 94623-0660
Tel: (510) 286-4444
Fax (510) 286-5513
TDD (510) 286-4454

RECEIVED
OCT 3 1 2001
DAVID J. POWERS & ASSOC., INC

October 16, 2001

SCL-85-8.11
SCL085141
SCH 2001102014

Ms. Belinda Allen
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Dear Ms. Allen:

Los Capitancillos Freshwater Wetland Mitigation Project – Notice of Preparation (NOP)

Thank you for including the California Department of Transportation in the environmental review process for the proposed project. We have examined the NOP and are satisfied that the project will not have a significant impact to State highway facilities.

Should you require further information or have any questions regarding this letter, please call Maija Cottle, of my staff at (510) 286-5737.

Sincerely,

RANDELL H. IWASAKI
Acting District Director

By Jean CR Finney

JEAN C. R. FINNEY
District Branch Chief
IGR/CEQA

c: Katie Shulte Joung (State Clearinghouse)

IOP Distribution List

County: Sc [illegible]

SC...

Resources Agency

■ **Resources Agency**
Nadell Gayou

☐ **Dept. of Boating & Waterways**
Bill Curry

☐ **California Coastal Commission**
Elizabeth A. Fuchs

☒ **Dept. of Conservation**
Ken Trott

☐ **Dept. of Forestry & Fire Protection**
Allen Robertson

☒ **Office of Historic Preservation**
Hans Kreutzberg

■ **Dept of Parks & Recreation**
Resource Mgmt. Division

☒ **Reclamation Board**
Pam Bruner

☐ **S.F. Bay Conservation & Dev't. Comm.**
Steve McAdam

☒ **Resources Agency**
Nadell Gayou
Dept. of Water Resources

Health & Welfare

☐ **Health & Welfare**
Wayne Hubbard
Dept. of Health/Drinking Water

Food & Agriculture

☐ **Food & Agriculture**
Tad Bell
Dept. of Food and Agriculture

Fish and Game

☐ **Dept. of Fish & Game**
Scott Flint
Environmental Services Division

☐ **Dept. of Fish & Game 1**
Donald Koch
Region 1

☐ **Dept. of Fish & Game 2**
Banky Curtis
Region 2

▨ **Dept. of Fish & Game 3**
Robert Floerke
Region 3

☐ **Dept. of Fish & Game 4**
William Laudermilk
Region 4

☐ **Dept. of Fish & Game 5**
Don Chadwick
Region 5, Habitat Conservation Program

☐ **Dept. of Fish & Game 6**
Gabrina Gatchel
Region 6, Habitat Conservation Program

☐ **Dept. of Fish & Game 6 I/M**
Tammy Allen
Region 6, Inyo/Mono, Habitat Conservation Program

☐ **Dept. of Fish & Game M**
Tom Napoli
Marine Region

Independent Commissions

☐ **California Energy Commission**
Environmental Office

■ **Native American Heritage Comm.**
Debbie Treadway

☒ **Public Utilities Commission**
Andrew Barnsdale

■ **State Lands Commission**
Betty Silva

☐ **Governor's Office of Planning & Research**
State Clearinghouse Planner

☐ **Colorado River Board**
Gerald R. Zimmerman

☐ **Tahoe Regional Planning Agency (TRPA)**
Lyn Barnett

☒ **Office of Emergency Services**
John Rowden, Manager

☐ **Delta Protection Commission**
Debby Eddy

☐ **Santa Monica Mountains Conservancy**
Paul Edelman

Dept. of Transportation

☐ **Dept. of Transportation 1**
IGR/Planning
District 1

☐ **Dept. of Transportation 2**
Vicki Roe
Local, Development Review, District 2

☐ **Dept. of Transportation 3**
Jeff Pulverman
District 3

▨ **Dept. of Transportation 4**
Jean Finney
District 4

☐ **Dept. of Transportation 5**
Lawrence Newland
District 5

☐ **Dept. of Transportation 6**
Marc Birnbaum
District 6

☐ **Dept. of Transportation 7**
Stephen J. Buswell
District 7

☐ **Dept. of Transportation 8**
Mike Sim
District 8

☐ **Dept. of Transportation 9**
Caroline Yee for Kate Walton
District 9

☐ **Dept. of Transportation 10**
Chris Sayre
District 10

☐ **Dept. of Transportation 11**
Lou Salazar
District 11

☐ **Dept. of Transportation 12**
Aileen Kennedy
District 12

Business, Trans & Housing

☐ **Housing & Community Development**
Cathy Creswell
Housing Policy Division

☐ **Caltrans - Division of Aeronautics**
Sandy Hesnard

☐ **California Highway Patrol**
Lt. Julie Page
Office of Special Projects

☐ **Dept. of Transportation**
Ron Helgeson
Caltrans - Planning

☐ **Dept. of General Services**
Robert Sleppy
Environmental Services Section

Air Resources Board

- ☐ Airport Projects
  Jim Lerner
- ☐ Transportation Projects
  Ann Geraghty
- ☐ Industrial Projects
  Mike Tollstrup

☐ **California Integrated Waste Management Board**
Sue O'Leary

☐ **State Water Resources Control Board**
Diane Edwards
Division of Clean Water Programs

☒ **State Water Resources Control Board**
Greg Frantz
Division of Water Quality

☐ **State Water Resouces Control Board**
Mike Falkenstein
Division of Water Rights

☐ **Dept. of Toxic Substances Control**
CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

☐ **RWQCB 1**
Cathleen Hudson
North Coast Region (1)

☒ **RWQCB 2**
Environmental Document Coordinator
San Francisco Bay Region (2)

☐ **RWQCB 3**
Central Coast Region (3)

☐ **RWQCB 4**
Jonathan Bishop
Los Angeles Region (4)

☐ **RWQCB 5S**
Central Valley Region (5)

- ☐ **RWQCB 5F**
  Central Valley Region (5)
  Fresno Branch Office
- ☐ **RWQCB 5R**
  Central Valley Region (5)
  Redding Branch Office

☐ **RWQCB 6**
Lahontan Region (6)

- ☐ **RWQCB 6V**
  Lahontan Region (6)
  Victorville Branch Office

☐ **RWQCB 7**
Colorado River Basin Region (7)

☐ **RWQCB 8**
Santa Ana Region (8)

☐ **RWQCB 9**
San Diego Region (9)

620417.1231

County of Santa Clara

Environmental Resources Agency
Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 358-3741 FAX 358-3245
Reservations (408) 358-3751 TDD (408) 356-7146

November 2, 2001

Received 11/7/01

Ms. Belinda Allen, Project Manager
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

SUBJECT: Los Capitancillos Freshwater Wetland Mitigation Project- NOP

Dear Ms. Allen:

The Santa Clara County Parks & Recreation Department (Parks Department) is in receipt of the Notice of Preparation (NOP) for the *Los Capitancillos Freshwater Wetland Mitigation Project.* We are focused on how the Los Capitancillos Project may potentially impact our recreational trails and parks within and adjacent to Santa Clara Valley Water District (SCVWD) lands.

According to County GIS files, the project site is not located adjacent to any County Parklands. However, there are two trails located in the project vicinity that are identified in the 1995 Santa Clara County **Countywide Trails Master Plan**. Regional Trail R1-A (bike), (*Juan Bautista de Anza National Historic Trail- Northern Bicycle Retracement Route*) and Sub-regional Trail S3 (*Guadalupe Trail*) follow Guadalupe Creek. These trails are intended for hiking, off road biking, and equestrian use. See attached map for location.

If SCVWD chooses to "include construction and maintenance of a public access component, including a trail and/or interpretive signage" (as indicated on page 2 of the NOP), please note that according to the **Countywide Trails Master Plan**, the City of San Jose is the lead agency for these segments of Trail Routes R1-A (bike) and S3.

The Parks Department appreciates the opportunity to respond to the NOP for the Los Capitancillos Project and looks forward to reviewing the EIR when it becomes available. If you have any questions regarding the above noted comments, please contact me at (408) 358-3741 x192 or via EMAIL at kelly.gibson@mail.prk.co.santa-clara.ca.us.

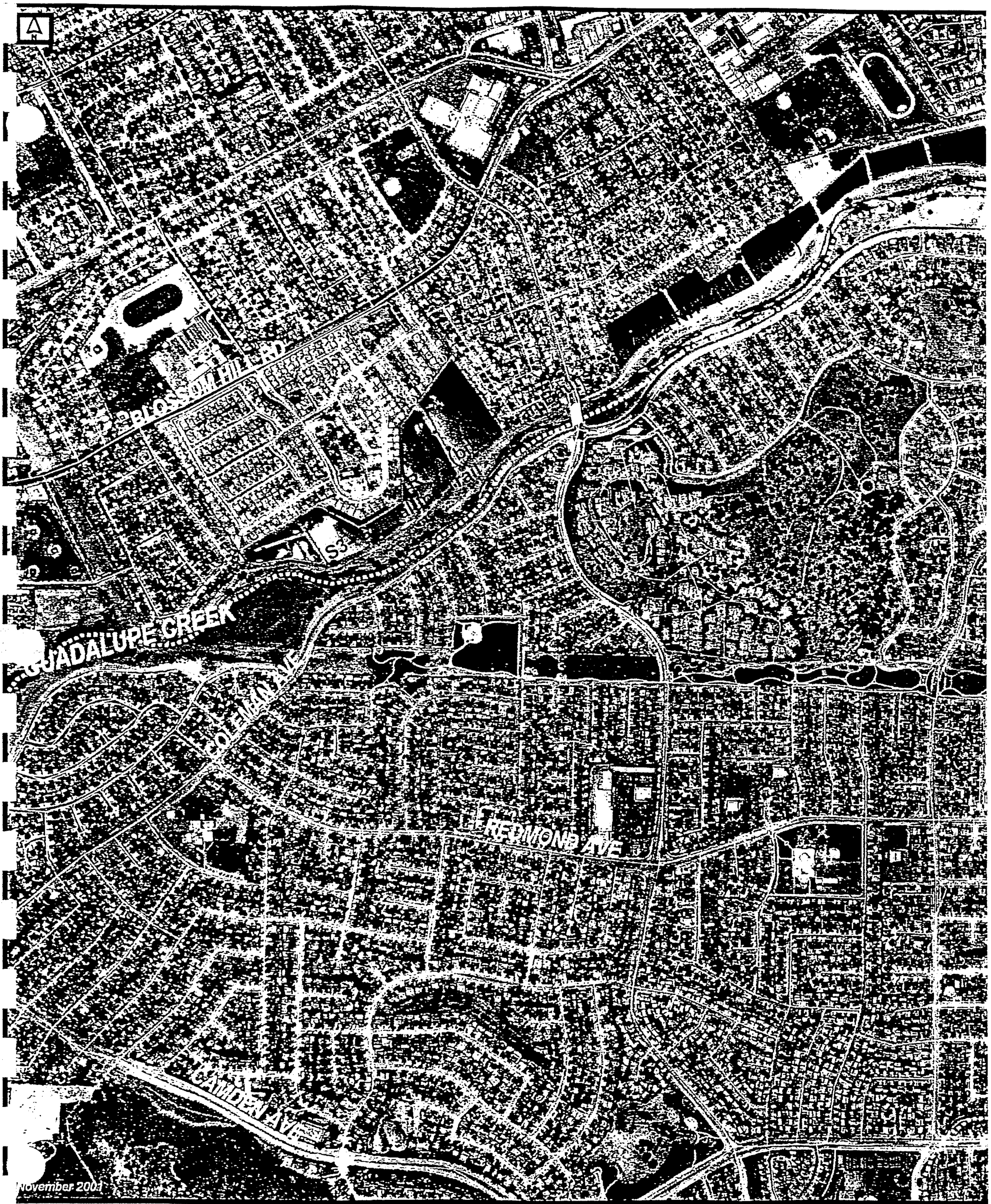
Sincerely,

Kelly Gibson

Kelly Gibson
PARK PLANNER

Attachment: Vicinity Map with Countywide Trail Master Plan Routes

cc: Mark Frederick, Planning and Development Manager
Jan Palajac, City of San Jose Department of Public Works, Parks & Recreation
EIR files



County of Santa Clara
Parks and Recreation Department

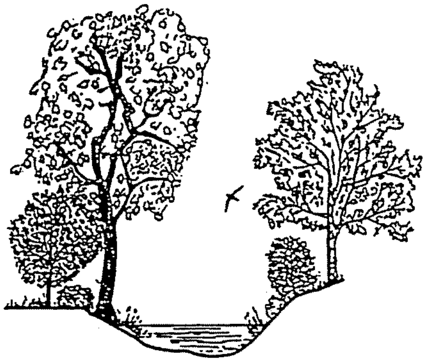
This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

Los Capitancillos Freshwater Wetland Mitigation Project (Santa Clara Valley Water District)

Roads
Major Creeks
Countywide Trails Master Plan Route
0 1000 Feet

File No. 620417.1331

SANTA CLARA COUNTY
STREAMS FOR TOMORROW
Post Office Box 1409
San Martin, California 95046



October 19, 2001

Received 10/22/01
BAA

Ms. Belinda Allen
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Dear Ms. Allen:

Response to Notice of Preparation for a Draft Environmental Impact Report for the Los Capitancillos Freshwater Wetland Mitigation Project

We have the following comments for your consideration regarding the scope and content of the proposed draft Environmental Impact Report (DEIR) for the Los Capitancillos Freshwater Wetland Mitigation Project (Project).

A complete and accurate description of the proposed Project is essential for conducting a legally sufficient assessment of potential environmental effects and identifying potential significant environmental impacts. It also is essential for determining whether the Project satisfies the legal/regulatory obligations of providing compensatory wetland mitigation.

The Project description must identify whether the goal of the Project is creation of seasonal wetland or near-perennial wetland. These are different habitats that require different methods of design, operation and/or maintenance; which in turn may involve assessment for different environmental effects.

The Project description must identify the target acreage of jurisdictional wetland vegetation to be established at the site. Although the eventual acreage may differ from the target, we need to know the District's acreage goal at time of Project design and environmental evaluation.

The Project description must differentiate between proposed acreage of jurisdictional wetland vegetation and jurisdictional open water habitats. The District's mitigation obligation at the site is to provide compensatory jurisdictional wetland vegetation. If the Project design includes open water pond area (as presented at the May 30, 2001 public meeting), the acreage of open water habitat cannot contribute to the District's wetland mitigation acreage obligation. Open water habitat cannot count as compensatory wetland vegetation for purpose of satisfying mitigation credit requirements. Riparian fringe vegetation plantings also cannot count toward satisfying jurisdictional wetland vegetation mitigation requirements.

The DEIR must explicitly identify that the purpose of the Project is to provide compensatory jurisdictional freshwater wetland vegetation mitigation for stream maintenance project impacts dating from 1996, 1997, 2000, and 2001, as documented in Table 7 of the 2001 Stream Maintenance Project Final Initial Study/Mitigated Negative Declaration; dated July 2001.The statement in the NOP referring to 1997 and 2000 impacts is incomplete. The DEIR should contain an explanatory table similar to the above referenced Table 7.

The District has previously advocated the wildlife values and benefits of the "hemimarsh" wetland habitat configuration (e.g., see June 20, 2000 Final Initial Study and Mitigated Negative Declaration for the 1997 Jones Creek and Morey Channel Sediment Removal Projects). In the cited document, the "hemimarsh'" configuration is described as "patches of emergent plants, sparse enough to allow a duck to swim through, are more attractive than larger blocks of thick, unbroken vegetation"; and the wildlife benefits of "hemimarsh" over thick growths of wetland vegetation and monoculture growths are extolled. Furthermore, the "hemimarsh" wetland configuration is described by the District as supporting the waterfowl restoration goals of the North American Waterfowl Management Plan. Now that the District is creating freshwater wetland habitat, it seems reasonable that the District would consider and adopt the extolled "hemimarsh" configuration in the design of the Los Capitancillos site.

The Project description should identify the design wetland configuration. If the extolled "hemimarsh" design is not employed, an explanation should be provided in the DEIR.

The Project description must provide details about the water source for the proposed wetland and the District's commitment to supply water in perpetuity. Establishing a mitigation wetland that is dependent upon a managed, artificial water source is tenuous and questionable in absence of an enforceable commitment to supply an adequate amount of water to operate and manage the site, including water in years of below normal runoff.

The DEIR should include information characterizing the quality of the water source.

The Project description should identify the design features and operational measures that would prevent water outflow from the wetland site into Guadalupe Creek. Outflow could adversely impact water temperatures necessary for sustaining salmonid fishes in the Creek. Because of this potential environmental effect, the District made a commitment in the Guadalupe Creek Restoration Project EIR/EIS that no surface water from the wetland mitigation site will flow into Guadalupe Creek. This subject needs detailed discussion in the DEIR. Monitoring any outfall water temperatures, as referred to in the NOP, does not, in itself, provide avoidance of thermal impacts to the creek. Avoiding outflow from the site should be a component of Project design and operation.

The Project description must definitively identify the location, type, and seasonality of any proposed public access and/or public use of the 32 acre parcel. The DEIR must demonstrate that any public access or use will be consistent with maintaining the full functions and values of the compensatory wetland habitat, with particular attention to potential disturbances of the wildlife habitat and use function of the wetland. Any public use should be restricted to passive activities and limited in location to the perimeter of the parcel, outside the actual wetland area.

The DEIR must identify that the wetland mitigation area will be protected in perpetuity as a wildlife habitat area and will not at any time be developed or modified for purposes of recreational amenities or other development.

The DEIR must discuss the potential environmental effects of isolating the wetland area from the Guadalupe Creek floodplain as a consequence of constructing the berm. How does removing the parcel from the floodplain impact hydrologic and hydraulic conditions in the Creek and impact flood protection of adjacent properties? Will the wetland be outside the 100-year flood zone? Are there adverse effects associated with constricting the Guadalupe Creek floodplain?

The DEIR should identify and discuss the functions and values of the habitats to be created by the mitigation project.

Because the mitigation site is in an urban setting, the DEIR should discuss how the District will prevent the wetland from becoming a feral cat refuge and local dumping ground.

The DEIR must include a detailed Los Capitancillos Freshwater Wetland Long-term Maintenance and Management Plan, which includes, among other topics, (1) annual water management protocols and procedures; (2) exotic species control protocols and procedures; (3) vector control procedures; (4) a description of post-construction best management practices; and (5) contingency remediation measures to repair damage from fire or flood events. Potential environmental effects of Plan implementation must be identified, assessed, and mitigated, where necessary, in the DEIR.

The DEIR must include a detailed Monitoring and Reporting Plan which describes Project performance standards, success criteria, target wetland functions and values, target hydrologic regime, monitoring methods, and reporting requirements. The Plan must identify the parameters that determine how and when final mitigation credits will be calculated to demonstrate compliance with the regulatory compensatory mitigation requirements of the Project. Will calculation of final mitigation credits be based upon the results of a jurisdictional wetland vegetation delineation conducted when the wetland achieves a state of dynamic equilibrium, as defined by performance standards and success criteria?

Thank you for the opportunity to comment and participate in the Notice of Preparation stage of this DEIR process. If you have questions about our comments, please contact me at the letterhead address or telephone number (408) 683-4330.

When available, please send us a copy of the Draft EIR and timely notice of any public meetings or hearings about the Project and/or DEIR.

Sincerely,

Keith R. Anderson

Keith R. Anderson
Environmental Advocate

APPENDIX B:

SCVWD BEST MANAGEMENT PRACTICES

<table>
<tr><th colspan="4">2001 SMP Best Management Practices for Bank Protection and Sediment Removal</th></tr>
<tr><th>BMP</th><th>Title</th><th>Description</th><th>Activity</th></tr>
<tr><td colspan="4">1. Water Quality--The District shall implement measures to protect water quality, to reduce short-term increases in turbidity, and to maintain the geomorphic integrity of the channels.</td></tr>
<tr><td>1</td><td>Tidal Work Areas</td><td>For tidal areas, a downstream cofferdam is constructed to prevent the work area from being inundated by tidal flows. By isolating the work area from tidal flows, water quality impacts are minimized. Downstream flows continue through the work area and through pipes within the cofferdam.
a) Installation of coffer dams will begin at low tide.
b) If work can be completed or staged when the work area is not under water, coffer dams will not be necessary.</td><td>Both</td></tr>
<tr><td>2</td><td>Dewater/ Bypass Water at Non-tidal Sites</td><td>If water is present at the work site, diversion structures (which can be made of various materials) will be constructed, as needed, to isolate the work area and avoid or minimize downstream water quality impact. Depending on the channel configuration, water is allowed to either continue flowing downstream or is diverted around the work site in a pipe (pumped or gravity) or open channel.
a) All water shall be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains when equipped with filtering devices, etc.).
b) Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows).
c) Where feasible and appropriate, diversion structures shall be installed on concrete sections of the channels or constructed of materials other than imported earthen fill. If earth is used, the downstream and upstream faces shall be covered by a protected covering (e.g., plastic or fabric) if needed to minimize erosion.
d) In conjunction with diversion structures, pumps or gravity-fed pipe systems are used to dewater sites.
e) Depending on the channel configuration, sediment removal may occur within a live stream where the flows are not bypassed around the work site; however, during excavation activities, a berm of sediment is left between the work area and stream flows to minimize water quality impacts.</td><td>Both</td></tr>
<tr><td>3</td><td>Avoid Erosion When Restoring Flows</td><td>All temporary diversion structures shall be removed. Flows shall be restored in a manner that minimizes erosion.
a) When diversion structures are removed, to the extent practicable, the ponded flows will be directed into the low-flow channel within the work site to minimize downstream water quality impacts.
b) Flows shall gradually be restored to the channel to avoid a surge of water that would cause erosion or scouring.
c) Bypassed flows can be slowly reintroduced into the dewatered area by leaving a silt barrier in place to allow water to slow and drop sediment to the extent possible.</td><td>Both</td></tr>
<tr><td>4</td><td>Erosion and Sediment Control Measures</td><td>Erosion control methods shall be used as appropriate during the construction phase to control sediment and minimize water quality impacts. The District shall prevent erosion on steep slopes by using erosion control material according to manufacturer's specifications. Appropriate measures include, but are not limited to, the following:
a) Silt Fences
b) Straw Bale Barriers
c) Brush or Rock Filters
d) Storm Drain Inlet Protection
e) Sediment Traps
f) Sediment Basins
g) Erosion Control Blankets and Mats

The following Bay Area Stormwater Management Agency Association BMPs</td><td>BP</td></tr>
</table>

2001 SMP Best Management Practices for Bank Protection and Sediment Removal			
BMP	**Title**	**Description**	**Activity**
		provide guidance and specifications as to implementation of the erosion control measures described: SC-3. Sediment Basins SC-4. Straw or Sand Bag Barriers SC-5. Sediment Traps SC-6. Silt Fences SS-1. Erosion Control Blankets, Mats, and Geotextiles VR-1. Brush or Rock Filters VR-2. Check Dams VR-4b. Temporary Outlet Protection VR-4b. Storm Drain Inlet Protection WD-1. Earth Dike WD-1. Slope Drain WD-3. Temporary Drains and Swales	
5	Use of Wheel and Track Mounted Vehicles in Stream Bottoms	District personnel shall use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, shall be used depending on the situation: a) Use of tracked vehicles shall focus on selecting low ground pressure equipment and, when possible, avoiding areas where channel topography would be unduly impacted by equipment. b) When possible, tracked equipment will be chosen in lieu of wheeled vehicles in areas where soil types are highly susceptible to compaction.	Both
6	Pump/ Generator Set Operations and Maintenance	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. a) Pumps and generators shall be maintained according to manufacturer's specifications to regulate flows to prevent dryback or washout conditions. b) Pumps shall be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. c) Pump intakes shall be screened to prevent uptake of fish and other vertebrates.	Both
7	Pump intake clearance structure	Pump clearance systems will be used in creeks fines at the pump intake location. Mount pump to pallet or other suitable base platform to provide clearance from channel bottom, which will reduce high velocity around pump intake.	Both
8	Fabric-lined Invert Upstream of Bypass Pump	In streams with ponded water, where pumping action increases velocity in the upstream channel and project inspection shows increased mobilization of sediment fines in flow, filter fabric will be laid in the channel bottom and secured upstream of bypass pump where sediment is mobilizing. Field judgment will be used to determine where sediment is mobilizing.	Both
9	Handle Sediments So As to Minimize Water Quality Impacts	Sediments shall be stored and transported in a manner that minimizes water quality impacts. a) Wet sediments may be stockpiled outside of a live stream or may be stockpiled within a dewatered stream so water can drain or evaporate before removal. This measure is dependent upon the availability of a stockpile site. b) Temporary stockpiles will be isolated. c) Trucks may be lined with an impervious material (e.g., plastic), or the tail gate blocked with dry dirt or hay bales, for example, or trucks may drain excess water by slightly tilting their loads and allowing the water to drain out. d) Water shall not drain directly into channels (outside of the work area) or onto city streets without providing water quality control measures. e) Streets shall be cleaned of mud and/or dirt by street sweeping, as necessary, and not by hosing down the street.	SR

BMP	Title	Description	Activity
10	Soil Stockpiles	If soil is to be stockpiled, no run-off will be allowed to flow back to creek outside of the work area in which water quality BMPs have been implemented.	SR
11	Avoid Exposing Soils with High Mercury Levels	Bank Protection projects in portions of the Guadalupe River watershed affected by historical mercury mining may expose soils containing mercury which can affect stream water quality. In the specified channel reaches in the Guadalupe River Basin, soils that are likely to be disturbed or excavated shall be tested for Mercury (Hg). Soils shall be remediated if: a) Disturbed or excavated soils exposed to flood flows below the 2.33-year channel flow level exceed 1 ppm Hg, or b) Disturbed or excavated soils above the 2.33-year flow level exceed 20 ppm Hg. C. Remediation can be accomplished either by: 1) treating the site so that contaminated soils excavated for the purpose of installing bank protection will not be susceptible to erosion, or 2) by further excavating contaminated soils and replacing them with clean fill or other bank protection materials that are free from contaminants.	BP
12	Concrete Use Near Waterways	Concrete that has not been cured is alkaline and can increase the pH of the water; fresh concrete will be isolated until it no longer poses a threat to water quality. a) Use plastic sheeting or otherwise isolate concrete that is used in channels for 2 weeks to one month to allow time for curing. b) Designate an area outside of the channel and floodplain to clean out concrete transit vehicles.	BP
13	Groundwater Management	If high levels of groundwater in a work area are encountered, the water may be pumped out of the work site. If necessary to protect water quality, the water shall be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a creek.	Both
14	Prevent Scour Downstream of Sediment Removal	Sites in the transport zone on alluvial fans may cause increased scour downstream if they experience rapid sediment accumulation after sediment removal. Channel reaches up to 500 feet downstream from such sediment removal sites will be monitored to determine whether accelerated erosion is occurring. If downstream monitoring indicates that erosion is occurring, then remedial action such as rock vortex weirs or similar protection shall be carried out.	SR
2. Vegetation -- The District shall strive to minimize vegetation removal and shall revegetate sites as appropriate to provide erosion control and restore riparian habitat value.			
15	Minimize Stream Access Impacts	District personnel shall use existing access ramps and roads where possible. If new access points are necessary, they shall be constructed in a manner that minimizes impacts to streams: a) New access points shall be created as close to the work area as possible to minimize running equipment down stream channels. b) On temporary access points, remaining disturbed soil shall be compacted and re-vegetated as soon after construction as is horticulturally appropriate. c) New access points will be constructed so as to minimize adverse impacts, such as tree removal, whenever possible. d) If the access point is to be permanent, the road or ramp will have a gravel surface. e) Any temporary fill used for access shall be removed upon completion of the project. Channel topography and geometry shall be restored to pre-project conditions to the extent possible.	Both

BMP	Title	Description	Activity
3. Wildlife and Fisheries -- The District shall implement measures to minimize impacts to native species, especially special-status and riparian dependant species.			
16	Minimize Impacts to Special-status Plants and Animals Via Site Assessments and Avoidance Measures	To avoid and minimize impacts to special-status plant and wildlife species, the annual work program shall be reviewed, and each site where special status species have been found, have been known to exist in the recent past, or are likely to occur because suitable habitat exists, will be visited by a biologist or qualified personnel under the direction of a biologist. For animal species the site surveys will be no more than 30 days prior to the start of construction to determine presence of special-status species. For plant species the surveys will be conducted during the appropriate time of the year to determine presence. Information regarding the presence of special-status species on a particular worksite shall be based on the District's GIS database and professional experience of qualified staff. a) If maintenance activities are scheduled in the vicinity of extant populations, qualified personnel under the direction of a biologist will clearly identify the populations on site and stake or flag a buffer zone around the population in which activities are to be avoided. b) If sensitive animals such as western pond turtles or California red-legged frogs are found, a qualified biologist will remove them to suitable habitat outside of the project limits. Moving animals will be consistent with applicable Fish and Wildlife Service and Fish and Game permits. c) The results of all sensitive species surveys will be reported to the Fish and Wildlife Service and the California Department of Fish and Game in an annual report. All surveys will be reported to the CNDDB.	Both
17	Minimize Impacts to Breeding Birds Via Site Assessments and Avoidance Measures	Work will be conducted in a manner consistent with the protocols established by the most current version of the District's Nesting Migratory Bird Procedure: a) Project areas will be checked by qualified personnel under the direction of biologists for nesting birds prior to starting work if the work has the potential to impact breeding birds. b) If nesting birds are found, implementation of a project may be delayed until after nesting is completed. Work may occur if an adequate buffer, as determined by a qualified biologist, can be established between the maintenance activity and nests.	Both
18	Salvage Native Aquatic Vertebrates from Dewatered Channels	If fisheries or native aquatic vertebrates are present when cofferdams, water bypass structures, and silt barriers are to be installed, a fish and native aquatic vertebrate relocation plan will be implemented to ensure that fish and native aquatic vertebrates are not stranded: a) In non-tidal channels, where water is to be diverted, prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates will be captured in the work area and transferred to another reach as determined by a qualified biologist b) Aquatic invertebrates will not be transferred (other than incidental catches) because of their anticipated abundance and colonization after completion of the repair work.	Both
19	Minimize Effects of Bypass Structures on Steelhead	To prevent increases in temperature and decreases in dissolved oxygen (DO), if bypass pipes are used, they shall be properly sized (i.e., larger diameter pipes to better pass the flows). Bypass pipes may also be avoided by creating a low-flow channel or using other methods to isolate the work area.	Both

BMP	Title	Description	Activity
20	Conduct In-Channel Work During the Dry Season	Avoid and minimize impacts to steelhead by timing stream maintenance projects in streams where there are or could be steelhead so that the use of heavy equipment in the channel is conducted outside of the migration and spawning season. a) Steelhead migration and spawning season is generally between December 15 to June 30.	Both
21	Remove Temporary Fills as Appropriate	Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work, except where clean river run cobble/gravel was used. When appropriate, some or all of such material may be left in the channel to provide a substrate for aquatic species.	Both
22	Restore Riffle and Pool Configuration of Channel Bottom	The District shall re-grade the channel bottom at the end of the work project to as close to original conditions as possible. a) In areas used for migration by salmonids as designated on the District GIS Fisheries coverage, the depth and size of the low flow channel and pools shall emulate the pre-construction conditions as closely as possible, within the finished channel topography. b) In areas potentially used for spawning by salmonids as designated on the District GIS Fisheries coverage, spawning riffles impacted by channel maintenance activities will be re-created by placement of a suitably sized gravel-cobble mixture in a configuration that equals or exceeds the pre-project available area (see also BMP 22).	Both
4. Land Use and Public Safety -- The District shall minimize disturbance to the public and ensure public safety.			
23	Notify Local Governments of Scheduled Work	Notify cities and the County of proposed work by submitting the Annual Work Plan to the Public Works Departments and the District's Zone Advisory Committee.	Both
24	Minimize Disturbances to Surrounding Neighborhoods	The District shall implement maintenance practices that minimize disturbances to neighborhoods surrounding work sites. a) In general, work shall be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects. b) Internal combustion engines shall be equipped with adequate mufflers. c) Excessive idling of vehicles will be prohibited. d) Levee traffic shall be limited to a speed of 15 miles per hour. e) Access roads shall be watered as needed to control dust. f) Dry sediment shall be wetted down or covered as needed to control dust during transport.	Both
25	Stabilized Construction Entrance	The District shall implement measures to minimize soil from being tracked onto streets near work sites: a) Methods used to prevent mud from being tracked out of work sites onto roadways include installing a layer of geotextile mat, followed by a 4-inch thick layer of 1to 3-inch diameter gravel on unsurfaced access roads where necessary; extensive sweeping can be substituted where there are stable road surfaces in the access. b) Access shall be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the creek bed, creek banks, and the surrounding land uses.	Both
26	Sanitary/Septic Waste Management	Temporary sanitary facilities shall be located on jobs that last multiple days. All temporary sanitary facilities shall be placed outside of the creek channel and floodplain.	Both

BMP	Title	Description	Activity
27	Vehicle and Equipment Cleaning	District vehicles shall be washed only at the approved area in the corporation yard. No washing of vehicles shall occur at job sites.	Both
28	Work Site Solid Waste Management	District employees and contractors shall clean the work site before leaving by removing all litter and construction related materials. The District's maintenance crews shall be responsible for all debris incurred as a result of construction and for cleaning up dumped material.	Both
29	Implement Public Safety Measures	The District shall implement public safety measures during maintenance: a) Construction signs shall be posted at job sites warning the public of construction work and to exercise caution. b) When necessary, a person shall be provided for traffic control. c) If needed, a lane shall be blocked off to allow for trucks to pull into and out of the access points. d) Where work is proposed adjacent to a recreational trail, warning signs shall be posted several feet beyond the limits of work. e) Fencing, either the orange safety type or chain link, shall be installed above repair sites on bank stabilization projects. f) Where projects are adjacent to schools, hours of ingress and egress to the site shall avoid peak periods of school traffic in the morning and afternoon to the maximum extent possible.	Both
5. Air Quality-- The District shall implement dust control measures at work sites to protect air quality and minimize effects on adjacent neighborhoods.			
30	BAAQMD Basic Dust Control Measures	The District shall implement BAAQMD Basic Control Measures at maintenance sites less than four acres in size. Current measures stipulated by the BAAQMD CEQA Guidelines include the following: a) Active maintenance areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. b) Trucks hauling sediments and other loose material shall be covered or shall maintain at least two feet of freeboard. c) Tailgates of trucks shall be sealed. d) Trucks shall be brushed down before leaving the maintenance site. e) Unpaved access roads and staging areas that are being used for the maintenance activity shall be watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation. f) Paved maintenance site access roads shall be swept when visible soil material is carried onto the roadway.	Both
31	BAAQMD Enhanced Dust Control Measures	For single maintenance sites greater than four acres, the District shall implement BAAQMD Enhanced Dust Control Measures. These measures include the following: a) Inactive areas shall be sprayed with soil stabilizer or seeded. b) Exposed stockpiles shall be watered, enclosed, covered, or sprayed with soil stabilizers. c) Traffic speeds shall be limited to 15 mph. d) Sandbags or other bank protections shall be installed to prevent silt runoff to roadways. e) Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g. willow cuttings have to be collected during winter dormancy).	Both
32	Avoid Stockpiling Potentially Odorous Sediments	Some of the sediment removal sites will have sediment that is rich in organic matter decaying in an anaerobic condition, which generates assorted malodorous gases, such as reduced sulfur compounds. These sediments shall be handled in a manner that avoids impacting sensitive receptors. a) The District shall avoid stockpiling potentially odorous sediments	SR

BMP	Title	Description	Activity
		within 1000 feet of residential areas or other odor sensitive land uses. b) Where appropriate, odorous stockpiles shall be disposed of at an appropriate landfill.	
6. Hazardous Materials -- The District shall implement hazardous materials protocols to protect environmental quality and public safety.			
33	Spill Prevention	The District shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels. a) District field personnel will be appropriately trained in spill prevention, hazardous material control, and clean-up of accidental spills. b) No fueling, repair, cleaning, maintenance, or vehicle washing shall be performed in the creek channel or in areas at the top of the channel bank that may flow into the creek channel unless adequate portable containment procedures are implemented.	Both
34	Spill Kit Location	Spill prevention kits shall always be in close proximity when using hazardous materials (e.g., crew trucks and other logical locations). a) Prior to entering the work site, all field personnel will know the location of spill kits on crew trucks and at other locations within District facilities. b) All field personnel will be advised of these locations and trained in their appropriate use.	Both
35	Hazardous Waste Management	The District shall implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the streams. a) Prior to entering the work site, all field personnel will know how to respond when toxic materials are discovered. b) The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable State and federal regulations. c) All handling and disposal of sediments shall be performed in accordance with the WDR issued by the RWQCB. The sediment shall ultimately be disposed at a permitted landfill. Any alternative use or disposal will require RWQCB approval.	Both
36	Vehicle and Equipment Fueling	No fueling shall be done in the stream channel and floodplain. Except, fixed equipment (such as pumps and generators) that are placed for extended periods during a job can be fueled in place provided that containment is accomplished per BMP 33. All mobile equipment (such as trucks, excavators, loaders, etc.) shall be pulled or driven out of the channel and floodplain areas for refueling.	Both
37	Vehicle and Equipment Maintenance	No equipment servicing shall be done in the stream channel and floodplain. Except, fixed equipment (such as pumps and generators) that are placed for extended periods during a job can be serviced in place provided that containment is accomplished per BMP 34. All servicing of equipment will be done so that hydrocarbon based lubricants are not introduced into areas that may run into the stream.	Both
7. Cultural Resources -- The District will protect cultural resources.			
38	Discovery of Cultural Remains or Historical Artifacts – previously improved channels	If historic or archaeological resources are uncovered during project implementation, all work shall stop and the District shall retain a qualified archaeologist. All workers who will be assigned to the projects shall attend an orientation to archaeological evidence so that they will be equipped to make preliminary identification of potential archaeological issues. The archaeologist will perform an archaeological reconnaissance and develop mitigation measures to protect archaeological resources pursuant to BMP 39.	Both

BMP	Title	Description	Activity
39	Discovery of Cultural Remains or Historic Artifacts – previously unimproved channels	In unimproved channels, and where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met. a) Work at the location of the find will halt immediately within 30 feet of the find. If an archaeologist is not present at the time of the discovery, SCVWD will contact an archaeologist for identification and CEQA evaluation. b) If the find is not significant, construction can continue. The archaeologist will prepare a brief informal memo/letter that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find. c) If the find appears significant, the archaeologist will determine if the resource can be avoided and will detail avoidance procedures. d) If the resource cannot be avoided, the archaeologist will develop within 48 hours an Action Plan to avoid or minimize impacts. The SCVWD field crew will not proceed until the Action Plan is approved by the SCVWD Watershed Manager. e) The recovery effort will be detailed in a report prepared by the archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository. f) In the event of discovery of human remains, the field crew supervisor shall take immediate steps to secure and protect such remains. g) The Santa Clara County Coroner shall be notified and informed of the find and of any efforts made to identify the remains as Native American. If the remains are determined to be from a prehistoric Native American, the medical examiner is responsible for contacting the Native American Heritage Commission (NAHC) within 24 hours of notification. The NAHC then designates and notifies within 24 hours a *Most Likely Descendant* (MLD). The MLD has 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods. h) Preservation in situ is the preferred option, and if the District can do this without incurring potential future disturbance, then the MLD will usually recommend no further action. The remains and artifacts will be documented and the find location carefully backfilled to avoid further disturbance. i) Human remains or cultural items exposed during maintenance that are subject to further disturbance will be exhumed archaeologically at the discretion of the MLD and reburied with the concurrence of the MLD in a place mutually agreed upon by all parties.	Both

APPENDIX C:

GEOTECHNICAL REPORT

GEOTECHNICAL ENGINEERING REPORT
LOS CAPITANCILLOS FRESHWATER WETLAND MITIGATION PROJECT
SANTA CLARA VALLEY WATER DISTRICT
SANTA CLARA COUNTY, CALIFORNIA
FINAL REPORT

For

Philip Williams & Associates, Ltd.
770 Tamalpais Drive, Suite 401
Corte Madera, CA 94925

PARIKH CONSULTANTS, INC.
481 Valley Way, Milpitas, CA 95035
(408) 945-1011

December, 2000

Job No. 99154.10

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PROJECT LOCATION MAP .... Plate 1

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icebox was used for field storage and transportation to the Sequoia Analytical laboratory as directed by SCVWD.

In addition, four samples were collected from each one of the four borings, at six inches, two, four and eight feet depth. The samples were collected via a standard splitspoon sampler. Due to the presence of gravels and cobbles in the area explored, and due to the fact that the soil was dry at the upper eight feet, intact samples could not be obtained. These samples were collected with the same method described above using plastic liners and steel sleeves. It should be mentioned that the soil collection tools used (scoop and split spoon sampler) were not steam cleaned between each sampling, since our field exploration program was not set up for this purpose. These samples were delivered to Sequoia Analytical Laboratory by the end of each exploration day for environmental laboratory testing.

Laboratory tests performed for the geotechnical study include the following: Laboratory determination of Moisture (ASTM Test Method D 2216-92), Atterberg Limits (ASTM Test Method D 4318-93) and Grain Size Distribution (ASTM Test Method D 422-63). The laboratory test methods and results are presented in Appendix B.

The logs presented in this report were prepared from the field logs, which were edited after visual re-examination of the soil samples in the laboratory, and results of classification tests on selected soil samples as indicated on the logs. The abrupt stratum changes shown on these logs may be gradational and relatively minor changes in soil types within a stratum may not be noted on the logs due to field limitations.

GEOLOGY

The project site is in the southeastern portion of the San Francisco Bay area in the Coast Range geomorphic province of California. The Coast Range forms a nearly continuous topographic barrier between the California coastline and the San Joaquin Valley. In general, the Coast Range in this region is a double chain of mountain running north-northwest. Between the two chains of mountain lies the basin of San Francisco Bay, including the valleys at the end of the Bay, Petaluma on the north and Santa Clara on the south. Three prominent geologic blocks dominate the San Francisco Bay Area: the Santa Cruz Mountains (western block), the San Francisco Bay (central block), and the East Bay Hills/Diablo range (eastern block).

The general geology in the site vicinity was mainly studied from geologic maps compiled by E.J. Helley and E.E. Brabb (1971), (see attached Plate 3, Geologic Map). The surficial geologic units in the site vicinity were deposited during Late Cenozoic Periods. The older units generally occupy higher elevations. The oldest unit mapped by them is Santa Clara Formation (QTs) which is composed of poorly consolidated conglomerate, sandstone, siltstone, and claystone of Pliocene and Pleistocene age, with minor lignite deposits. Relatively younger units i.e. Fluvial Deposits at the outer edge of young alluvial funs (Qyfo), Young Alluvial Fan Deposits (Qyf), and Older Fan Deposits (Qof) which mainly consist of alluvial and fluvial deposits are mapped within the project vicinity.

The project site, adjacent to Guadalupe Creek, is within a broad alluvial plain situated between the northern ridges of the Santa Cruz Mountains to the south and the lower basin of the Santa Clara Valley to the north. The headwaters of the watershed upstream of the project site (maximum elevation 3486 feet) originate in steep hill slopes (~35% slope) comprised of erodible and fractured sedimentary rocks of the Franciscan Complex. Northeast-flowing tributaries such as Pheasant Creek are captured by the larger trunk stream (Guadalupe Creek), which flows northwestward along a linear valley following the trace of the Berrocal Fault Zone. Guadalupe Creek emerges from this mountainous zone onto the alluvial plain, comprised of Late Pleistocene alluvium, through a gap between the Blossom Hill and Capitancillos ridges. In a general sense, the project site is located in a transitional geomorphic zone where stream gradient and sediment grain size decrease in the downstream direction.

SUBSURFACE CONDITIONS

Based on the boring and pit data, the site is generally underlain by a layer of very stiff to hard sandy lean clay with gravel, sandy silt and silty sand, having a thickness of 1.5 to 3.5 feet. This layer is underlain by native weakly cemented gravels and cobbles, containing sand and clay matrix. These deposits are medium dense to very dense, extending throughout the explored depth of 31 feet. They typically contain well-graded to poorly-graded gravels and cobbles with sand, clay and silt. Occasional interbedded layers of sandy lean clay and clayey sand were encountered. Artificial fill was encountered at the northeast corner of the project site.

Groundwater was encountered in all borings during drilling at about nine feet depth, except boring B-3 in which ground water was measured at 20.5 feet during drilling. It is anticipated that groundwater level will fluctuate with the passage of time due to seasonal groundwater fluctuations, changes in creek flow, surface and subsurface flow, ground surface run-off and other factors that were not existent at the time of investigation.

Piezometers were installed at B-1, B-2 and B-3 after drilling was completed, in order to measure the groundwater level in a more stable condition. Groundwater level was measured to be at nine feet depth in the piezometers at B-1 and B-3 on June 14, 2000. B-2 was drilled on June 14, 2000 and the ground water level was also measured at nine feet depth. This depth roughly coincides with the creek elevation. Subsequent water level measurements are being taken in a monthly basis and are presented in this report (Appendix E).

Detailed descriptions of the materials encountered in the exploratory borings are presented in Appendix A, "Log of Borings". It should be noted that these descriptions and related information depict subsurface conditions only at the locations indicated on the logs and on the particular date noted on the logs. Because of the variability from place to place within soil/rock in general, subsurface conditions at other locations may differ from conditions occurring at the locations explored.

EARTHQUAKE CONSIDERATIONS

Seismic Sources

No structures are proposed for this project. However, the following site data is provided as project information. The project site is located within a seismically active region. A Fault Map showing the site location relative to the major active faults in the Bay Area is presented in Plate 4. Significant earthquakes that have occurred in this area are generally associated with crustal movements along well-defined active fault zones. Faults in the vicinity of the site with a moderate to high potential for producing strong shaking at the site include the San Andreas Fault, the Calaveras Pacines San Benito Fault, the Hayward and the Monte Vista Fault systems.

The Maximum credible earthquake magnitudes for some of the major faults in the area determined by Mualchin (California Seismic Hazard Map 1996) are summarized below. These maximum credible earthquake magnitudes represent the largest earthquakes that could occur on the given fault based on the current understanding of the regional tectonic structure.

Fault	Estimated Distance From Project Site	Maximum Credible Earthquake
Hayward Fault (HWD)	14 km	7.5
Calaveras Pacines San Benito Fault (CPS)	18 km	7.5
San Andreas Fault (SAN)	13 km	8.0
Monte Vista (MVE/MVW)	2 km	6.5

Based on the California Seismic Hazard Map by Caltrans (Mualchin, 1996), the governing fault is the Monte Vista Fault (Mw = 6.5). Peak Bedrock Acceleration (PBA) was estimated to be 0.5g using the said reference, which is based on Maximum Credible Earthquake (MCE) and uses the attenuation curves by Mualchin and Jones (1992).

1. Governing Fault = Monte Vista Fault (Mw=6.5)
2. Distance to Fault = 2 km
3. Peak Bedrock Acceleration = 0.5 g

Based on Caltrans Seismic Design Criteria (Version 1.1, July 1999) ARS Curves for Soil Profile D (Figure B.7), Peak Ground Surface Acceleration (PGA) on the site is in the order of 0.5g.

Seismic Hazards/Liquefaction Potential

Potential seismic hazards may arise from three sources: surface fault rupture, ground shaking, and liquefaction. Since no active faults pass through the site, the potential for fault rupture is relatively low. Based on available geological and seismic data, the possibility of the site to experience strong ground shaking may be considered high.

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Submerged cohesionless sands and silts of low relative density are the type of soils that usually are susceptible to liquefaction. Based on the investigation, the majority of the site subsurface soils do not meet these criteria. Therefore, liquefaction potential of the project site is low.

FINDINGS AND RECOMMENDATIONS

General

Based on the findings of our investigation, it is our opinion that the proposed Los Capitancillos freshwater wetland mitigation project is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the final design and construction.

This report was prepared specifically for the proposed project. Normal construction procedures were assumed throughout our analysis and represent one of the bases for recommendations presented herein. Our design criteria have been based upon the materials and conditions encountered in the borings. Therefore, we should be notified in the event that these conditions are changed, so as to modify or amend our recommendations.

Stability

Approximately four to six feet deep excavations with side slopes of about 2H:1V are anticipated during wetland basin construction. Excavated materials may be used to build a low dike around the wetland area to increase the basin capacity. Based on the slope stability evaluation conducted for the side slopes using the computer program PCSTABL, it appears that 2H:1V slopes up to a maximum height of 20 feet should be feasible.

It should be noted that the factor of safety obtained from a slope stability calculation is a relative term and is derived from evaluating the ratio of the disturbing forces to the resisting forces in the soil mass. Also, the safety factor has been evaluated under certain prescribed conditions such as potential seismic forces, saturated soil shear strengths, steepness of the slope, etc. The safety factors will vary with variations in the prescribed conditions. Therefore, the safety factors are to be considered as relative terms. Currently, no universal standards for acceptable safety factors are established in the geotechnical engineering profession. From our experience, a safety factor of 1.5 under static conditions is considered to be "relatively safe" and generally acceptable. A safety factor of less than 1.0 indicates a potentially unstable slope which may fail if all the specific conditions exist.

Pseudostatic analyses were developed in order to evaluate slope stability under seismic loading. For slope stability analyses purposes a typical input value for peak ground surface acceleration (PGA) would be in the range of 0.1 to 0.2 g. (pseudo-static analysis). According to Caltrans Guidelines for Foundation Investigation and Reports (May 2000), "Pseudo-static analyses shall use a seismic coefficient equal to one-half the horizontal ground acceleration. The effects of vertical acceleration may be omitted. Sites with a pseudo-static factor of safety equal to or greater than 1.0 shall be considered to have adequate stability and require no further stability analysis". Accordingly, initially we performed the slope stability analyses using a seismic coefficient of 0.12g, which is a typical value. In addition, we considered a maximum seismic coefficient of 0.20g.

During soil investigation on sands and gravels intact samples are very difficult to obtain and test properly, therefore sophisticated shear strength tests (unconfined compression, UU/CU TX tests) are usually impractical. However, for simple problems, the angle of internal friction can be satisfactorily approximated by correlation with penetration resistance and soil classification. This technique was adopted for the selection of the soil strength parameters for the slope stability analyses.

Since sands and gravels dominate the project site, drained conditions will occur, and no distinction was considered for short versus long-term loading conditions.

The safety factors obtained from our analyses are summarized bellow. The computer outputs are presented on Appendix C, and they contain the slope geometry and the strength parameters used.

Static case: SF = 2.58
Pseudo-static case (PGA=0.12): SF = 1.90
Pseudo-static case (PGA=0.20): SF = 1.44

Settlement

The soil conditions at the site are generally dense gravel and cobbles with sand and silts. Settlements due to construction of the wetlands basin were estimated to be negligible for the nature of this project.

Hydraulic Conductivity/Seepage

We conducted falling head field percolation tests in two of the soil borings (B-2 and B-4) on June 14, 2000. In the beginning of the tests (t=0) the water in the borings was at ground level. Thereafter, the water drawdown was recorded at regular time intervals. The results of these tests are summarized in the following table.

Field Percolation Test Results

B-2 (8" diameter)		B-4 (8" diameter)	
Time elapsed (min)	Drawdown (ft)	Time elapsed (min)	Drawdown (ft)
0	0	0	0
1	1.5	1	0.8
2	2.7	2	1.0
3	4.8	3	1.3
4	5.8	4	1.4
6	6.7	5	1.45
8	7.4	10	1.8
13	8.5	15	1.95
18	8.8	25	2.0
28	8.8	35	2.0
38	8.8	45	2.0
48	8.8	75	2.2
78	8.8	105	2.4
108	8.8	135	2.5
		195	2.7
		255	2.9
		375	3.5

The primary purpose in performing these tests was to get a broad based (qualitative) range of permeability of the subsurface soils on the project site. It should be recognized that these field percolation tests cannot provide a quantitative value of the actual permeability. However, it does provide an order of magnitude of field percolation rate.

In addition, we used published data that correlate hydraulic conductivity to characteristic grain size (D_{10}, D_{50}) for different sediment types (Shepherd 1989, Terzaghi and Peck 1967). The laboratory soil gradation test results were used for this purpose. Based on our evaluation, the soils in the upper ten feet (approximate impacted zone) appear to be highly permeable. We estimate the hydraulic conductibity to range from 0.01 cm/s in areas predominantly consisting of sands to 200 cm/s in areas where gravels and cobbles were encountered.

Potential loss of water by percolation from the wetland basin area is a major concern for the project. Percolation rate may be relatively high because of the highly permeable soils in the upper ten feet. If the percolation rate and water loss is a concern, we recommend that a compacted clay liner be constructed over the basin area. Typically, a compacted clay liner, if constructed properly, yields a hydraulic conductivity of 0.00001 cm/s or less, which will reduce the seepage rate to acceptable levels.

At this time the project criteria for recharge or retention in the proposed basin are not defined. Also, we do not know if a manufactured liner with the on-site soil will be used for controlling seepage. This will depend on the overall program for retention, recharge, revegetation, or other soil cap functions. Specific laboratory testing and analysis may be required if on-site soil is to be used for liner material.

Plan Review

We recommend that final plans for foundations be reviewed by this office prior to construction so that the intent of our recommendations is included in the project plans and specifications and to further see that no misunderstandings or misinterpretations have occurred.

Construction Observation

To a degree, the performance of any structure is dependent upon construction procedures and quality. Hence, density testing of subgrade should be carried out by the regulating agencies. Any subsurface conditions different from those forming the basis of our recommendations should be forwarded to assess the need for design changes. Therefore, the recommendations presented in this report are contingent upon good quality control and these geotechnical observations during construction.

INVESTIGATION LIMITATIONS

Our services consist of professional opinions and recommendations made in accordance with generally accepted geotechnical engineering principles and practices and are based on our field exploration and the assumption that the soil conditions do not deviate from observed conditions. No warranty, expressed or implied, of merchantability or fitness, is made or intended in connection with our work or by the furnishing of oral or written reports or findings. The scope of our services did not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in structures, soil, surface water, groundwater or air, below or around this site. Unanticipated soil conditions are commonly encountered and cannot be fully determined by taking soil samples and excavating test borings; different soil conditions may require that additional expenditures be made during construction to attain a properly constructed project. Some contingency fund is thus recommended to accommodate these possible extra costs.

This report has been prepared for the proposed project as described earlier, to assist the engineer in the design of this project. In the event any changes in the design or location of the facilities are planned, or if any variations or undesirable conditions are encountered during construction, our conclusions and recommendations shall not be considered valid unless the changes or variations are reviewed and our recommendations modified or approved by us in writing.

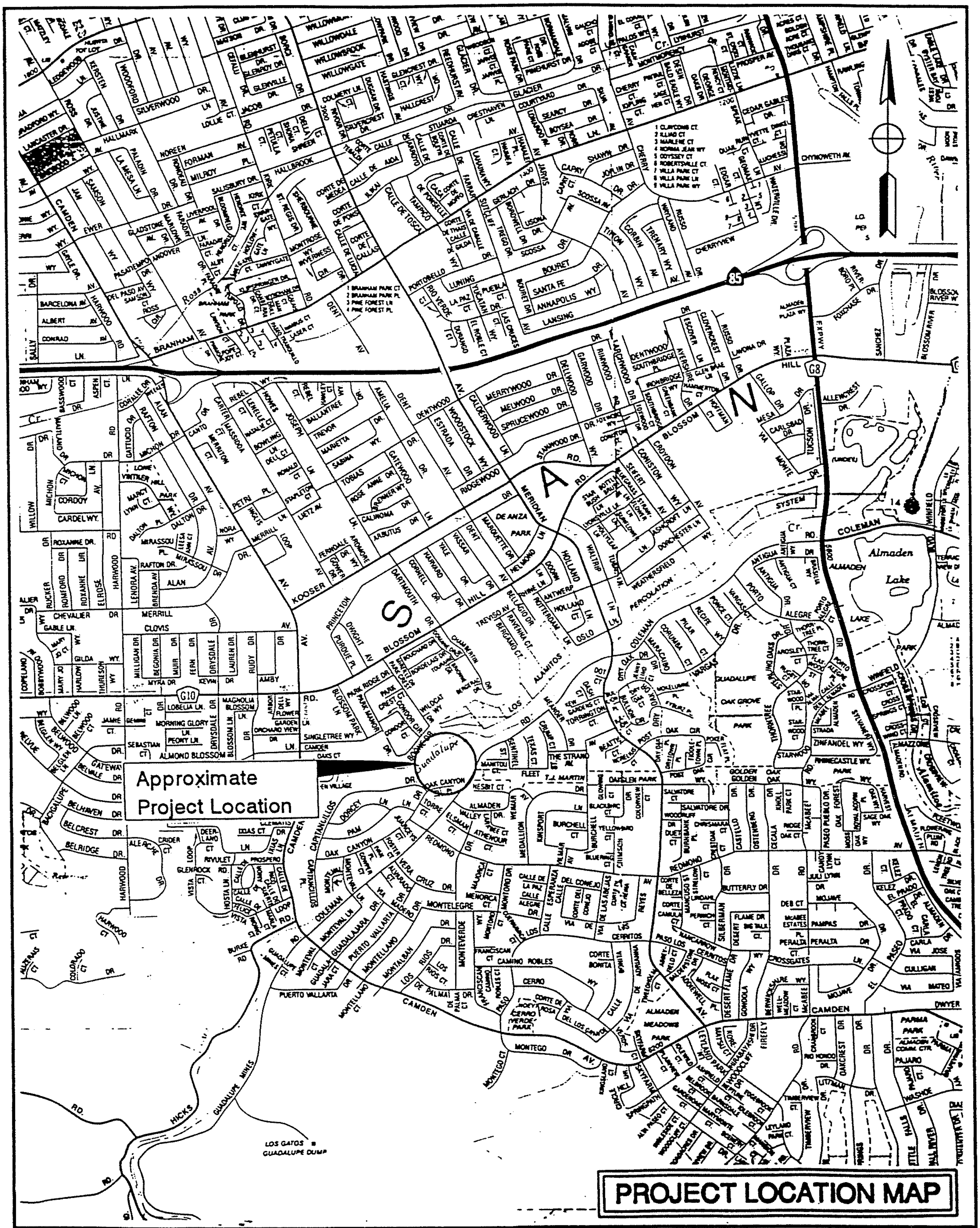
This report is issued with the understanding that it is the designer's responsibility to ensure that the information and recommendations contained herein are incorporated into the project and that necessary steps are also taken to see that the recommendations are carried out in the field.

The findings in this report are valid as of the present date. However, changes in the soil conditions can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur, whether they result from legislation or from the broadening of knowledge. Accordingly, the findings in this report might be invalidated, wholly or partially, by changes outside of our control.

Respectfully Submitted,
PARIKH CONSULTANTS, INC.

Gary Parikh, G.E. #666
Project Manager

REGISTERED PROFESSIONAL ENGINEER
GAURANG R. PARIKH
No. 666
EXP. 12-31-01
GEOTECHNICAL
STATE OF CALIFORNIA



PROJECT LOCATION MAP

PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS ENGINEERING

LOS CAPITANCILLOS WETLANDS PROJECT
SAN JOSE, CALIFORNIA

JOB NO.: 99154.10	PLATE NO: 1

Los Capitancillos Wetland Mitigation Site

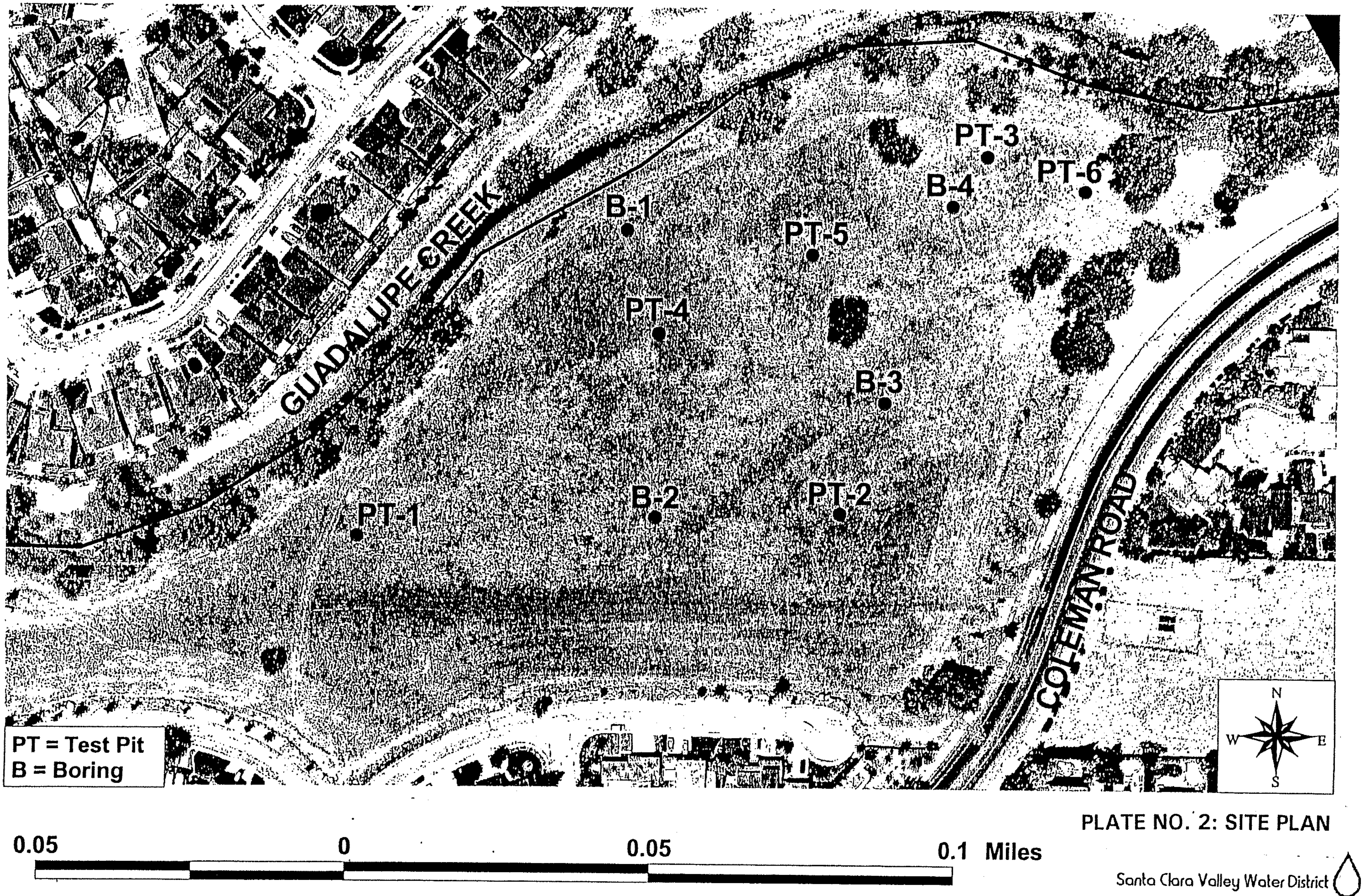
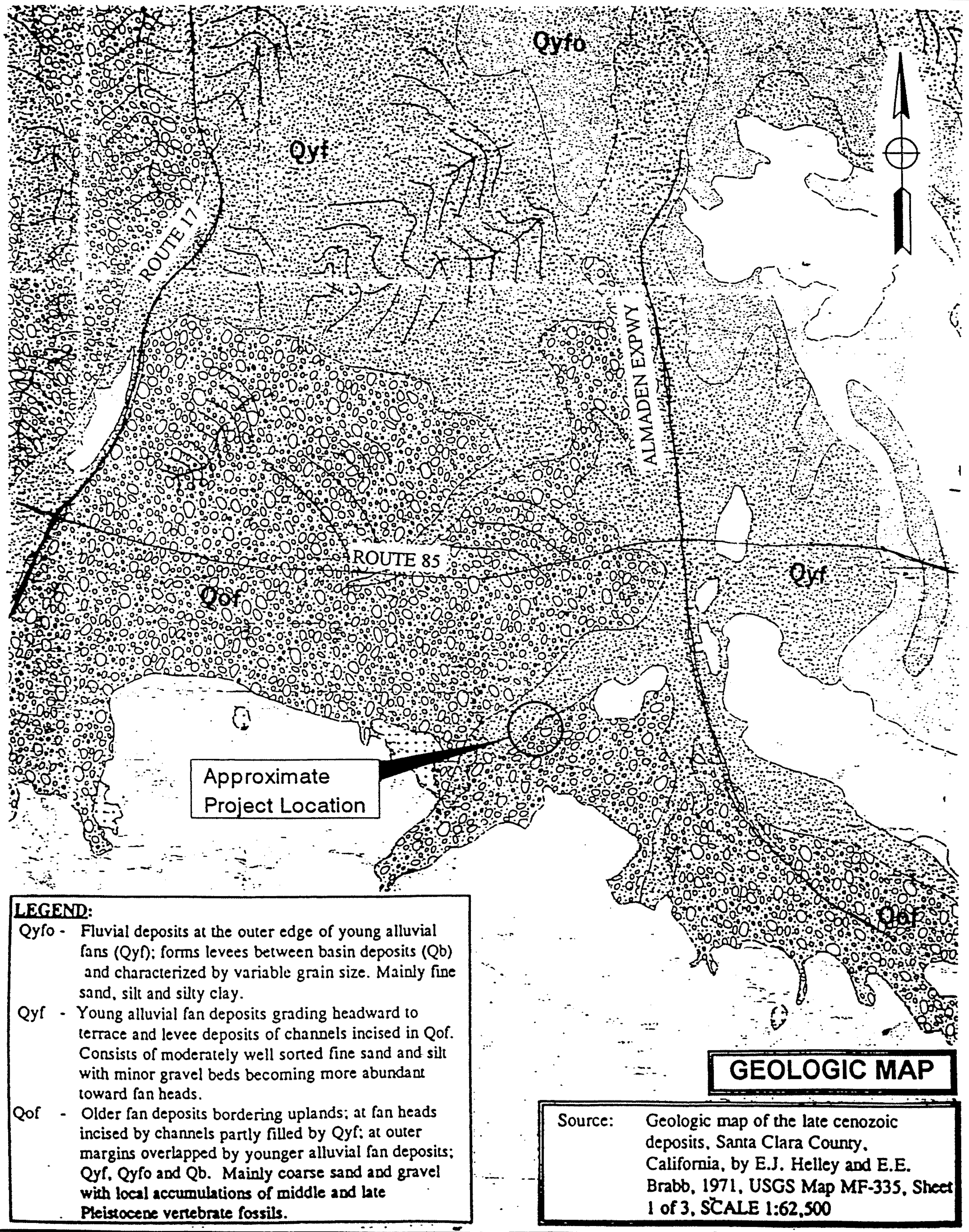


PLATE NO. 2: SITE PLAN

Santa Clara Valley Water District



LEGEND:

Qyfo -	Fluvial deposits at the outer edge of young alluvial fans (Qyf); forms levees between basin deposits (Qb) and characterized by variable grain size. Mainly fine sand, silt and silty clay.
Qyf -	Young alluvial fan deposits grading headward to terrace and levee deposits of channels incised in Qof. Consists of moderately well sorted fine sand and silt with minor gravel beds becoming more abundant toward fan heads.
Qof -	Older fan deposits bordering uplands; at fan heads incised by channels partly filled by Qyf; at outer margins overlapped by younger alluvial fan deposits; Qyf, Qyfo and Qb. Mainly coarse sand and gravel with local accumulations of middle and late Pleistocene vertebrate fossils.

GEOLOGIC MAP

Source: Geologic map of the late cenozoic deposits, Santa Clara County, California, by E.J. Helley and E.E. Brabb, 1971, USGS Map MF-335, Sheet 1 of 3, SCALE 1:62,500

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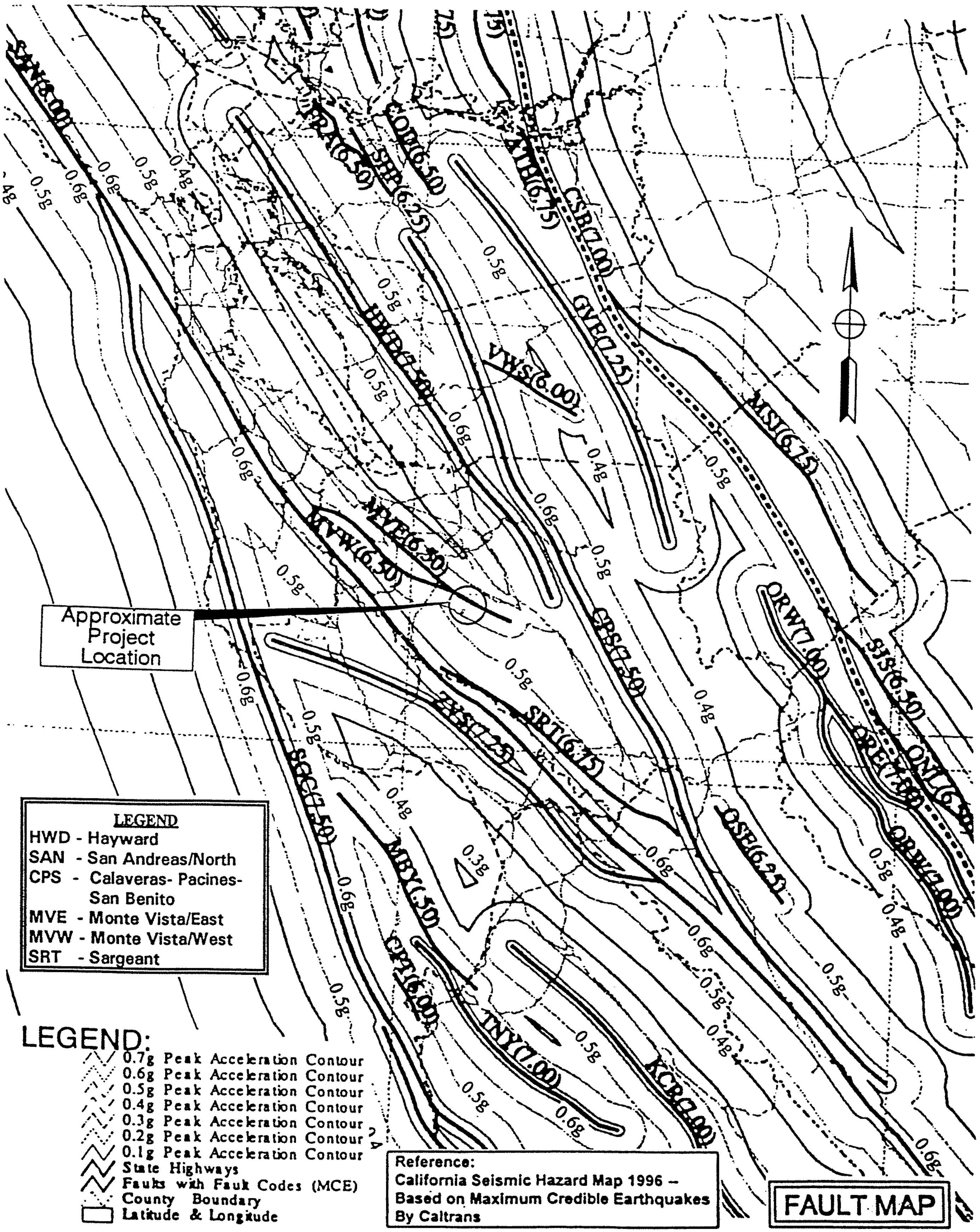
GEOTECHNICAL CONSULTANTS
MATERIALS ENGINEERING

LOS CAPITANCILLOS WETLANDS PROJECT
SAN JOSE, CALIFORNIA

JOB NO.: 99154.10

PLATE NO: 3



Approximate Project Location

LEGEND

HWD - Hayward
SAN - San Andreas/North
CPS - Calaveras- Pacines- San Benito
MVE - Monte Vista/East
MVW - Monte Vista/West
SRT - Sargeant

LEGEND:

0.7g Peak Acceleration Contour
0.6g Peak Acceleration Contour
0.5g Peak Acceleration Contour
0.4g Peak Acceleration Contour
0.3g Peak Acceleration Contour
0.2g Peak Acceleration Contour
0.1g Peak Acceleration Contour
State Highways
Faults with Fault Codes (MCE)
County Boundary
Latitude & Longitude

Reference:
California Seismic Hazard Map 1996 –
Based on Maximum Credible Earthquakes
By Caltrans

FAULT MAP

PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS ENGINEERING

LOS CAPITANCILLOS WETLANDS PROJECTS SAN JOSE, CALIFORNIA	
JOB NO.: 99154.10	PLATE NO: 4

APPENDIX D:

HYDROLOGY AND FLOODING

PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
CONSULTANTS IN HYDROLOGY

720 CALIFORNIA STREET, SUITE 600, SAN FRANCISCO, CA 94108-2404
TEL: 415.262.2300 FAX: 415.262.2303
E-MAIL: SFO@PWA-LTD.COM

LOS CAPITANCILLOS FRESHWATER WETLAND MITIGATION PROJECT ENVIRONMENTAL SETTING

Prepared for

Santa Clara Valley Water District

Prepared by

Philip Williams & Associates, Ltd.

March 29, 2002

PWA REF. # 1426 - Task 5

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1. INTRODUCTION

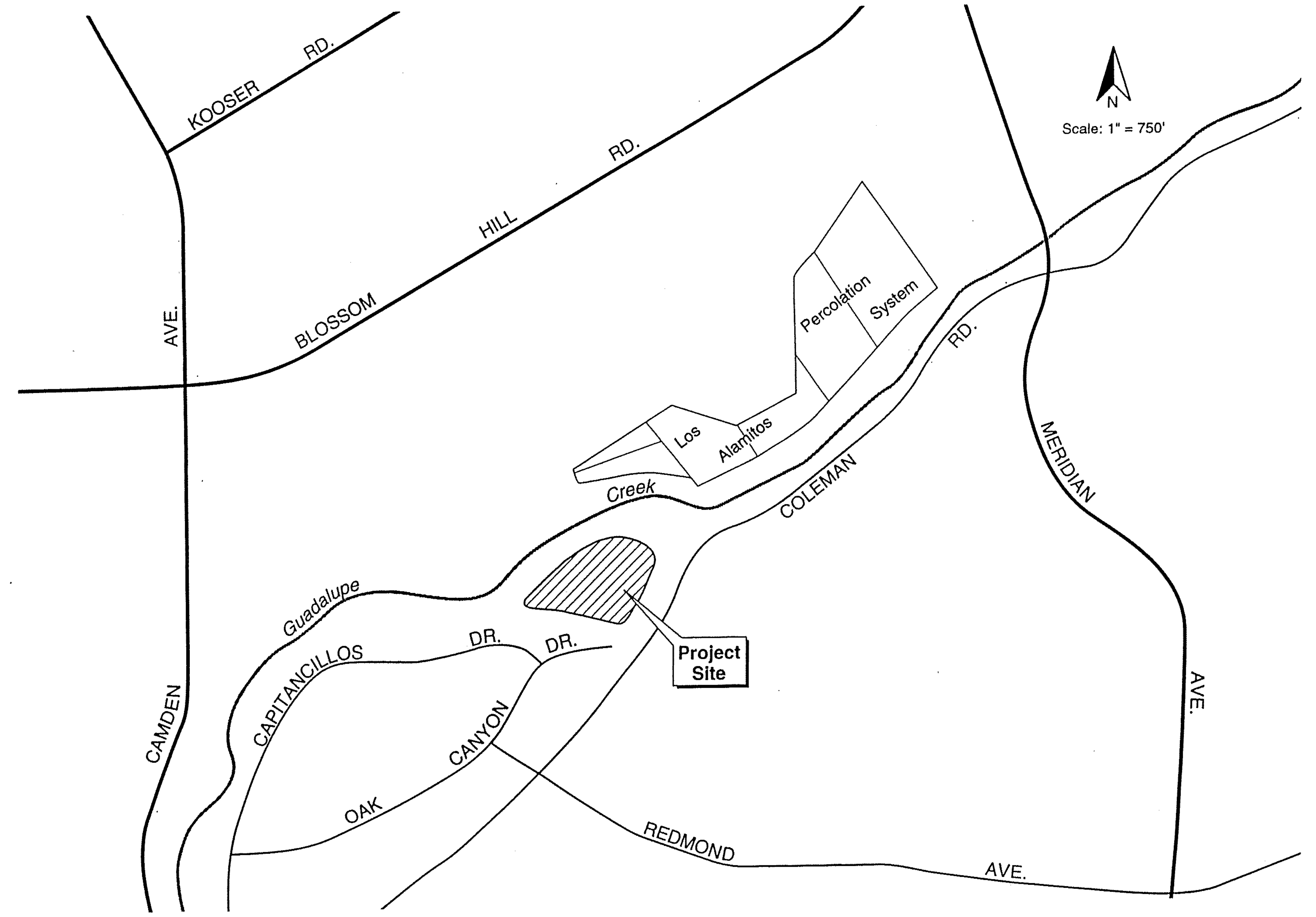
The overall goal for the Los Capitancillos Freshwater Wetland Mitigation Project (project) is to create the maximum acreage of new freshwater wetland habitat with high habitat values for wildlife. The wetland is expected to be constructed on the Santa Clara Valley Water District (District)-owned site located on the south side of Guadalupe Creek, north side of Coleman Road and Oak Canyon Place, and about 2000 feet east of Camden Avenue (Figure 1). This project is intended to mitigate for freshwater wetland impacts associated with District sediment removal projects.

The project site is located on a broad and relatively level floodplain terrace along the southern bank of Guadalupe Creek just approximately 800 feet downstream of Masson Dam (Figure 1). Adjacent to the approximately 4.5-acre site, Guadalupe Creek bends northward as a crescent shaped form. The project site is currently an open field comprised primarily of non-native grassland habitat situated on the south side of the Guadalupe Creek riparian corridor. The adjacent riparian corridor consists of scattered patches of mixed riparian habitat dominated by mature California sycamore (Platanus racemosa) rooted primarily at the top of bank

Previous studies in the vicinity of the project site indicate that channel erosion and incision have reduced the frequency with which flood flows in Guadalupe Creek exceed the height of the channel banks and access the adjacent floodplain. Interaction between the project site and the adjacent creek, which may once have occurred as often as annually, now requires a significant flood event.

Under a separate project, the District is restoring shaded riverine aquatic habitat on Guadalupe Creek, including the reach that is adjacent to the project site (SCVWD 2000). The Guadalupe Creek Restoration Project has modified the creek and floodplain system adjacent to the project site in order to reduce flood hazards and improve habitat conditions. Grading completed for the project has lowered the floodplain elevation, and separated the wetland site from Guadalupe Creek. The existing geomorphology, hydrology and hydraulics of the project site have been altered by the implementation of the Guadalupe Creek Restoration Project.

The following sections review the regional and local setting with respect to the geomorphology, hydrology, and hydraulics of the project area.



VICINITY MAP

FIGURE 1

2.1.1 Geology and Soils

Guadalupe Creek drainage basin is located in the southwestern portion of the Santa Clara Valley in the Coast Range physiographic province (Bailey 1966). The Guadalupe Creek basin is predominantly composed of Franciscan Complex, comprised mostly of shale and sandstone, with minor quantities of chert, limestone, greenstone, and conglomerate (California Division of Mines and Geology 1990). The basin also contains rock types of volcanic, metavolcanic, and ultramafic (primarily serpentine). The highly erodible Franciscan Complex is subject to mass wasting (SCVWD 2000). Mass wasting tends occur at high elevations that experience higher annual rainfall and along undercut stream banks, due to bank instability. Large storm events increase the probability of landslides, rockfalls, and debris flows.

Regional soils are a mixture of Los Gatos and Maymen soils. Both types of soils are extremely erodible (Soil Conservation Service 1968). The Los Gatos soil is typically gravelly loam with 50 to 75% slopes. The Maymen soil consists of rocky fine sandy loam with 50 to 75% slopes (SCVWD 2000).

2.2 HYDROLOGY

2.2.1 Climate

The Guadalupe Creek basin experiences a Mediterranean climate, typically characterized by moist mild winters and dry summers. Average maximum temperatures in the summertime range from 79 to 82° F, falling to average minimum temperatures from 55 to 57° F. Average wintertime maximum temperatures range from 58 to 62° F, and drop to average minimum temperatures from 41 to 44° F (Western Regional Climate Center 1999). Mean annual precipitation ranges from 40 inches near Mount Umunhum to 16 inches near the Guadalupe Creek and Alamitos Creek confluence (SCVWD 1994). Eighty-five percent of measurable precipitation in the form of rainfall occurs between November and April. Due to the local Mediterranean climate, typically characterized by moist mild winters and dry summers, surface water flow varies with the seasons accordingly.

2.2.2 Surface Water Hydrology and Water Management

Guadalupe Creek drains a basin of 15.2 square miles, originating in the foothills of the Santa Cruz Mountains and flowing northeast into the greatly urbanized Santa Clara Valley to confluence with Alamitos Creek and form the Guadalupe River (Figure 2). The main tributaries include upper Guadalupe Creek, Rincon Creek, Los Capitancillos Creek, and Pheasant Creek. Urban runoff from Santa Clara Valley increases surface water flow in the lower portion of watershed. Guadalupe Creek flow is also impacted by the water storage, importation, and diversion facilities along its length.

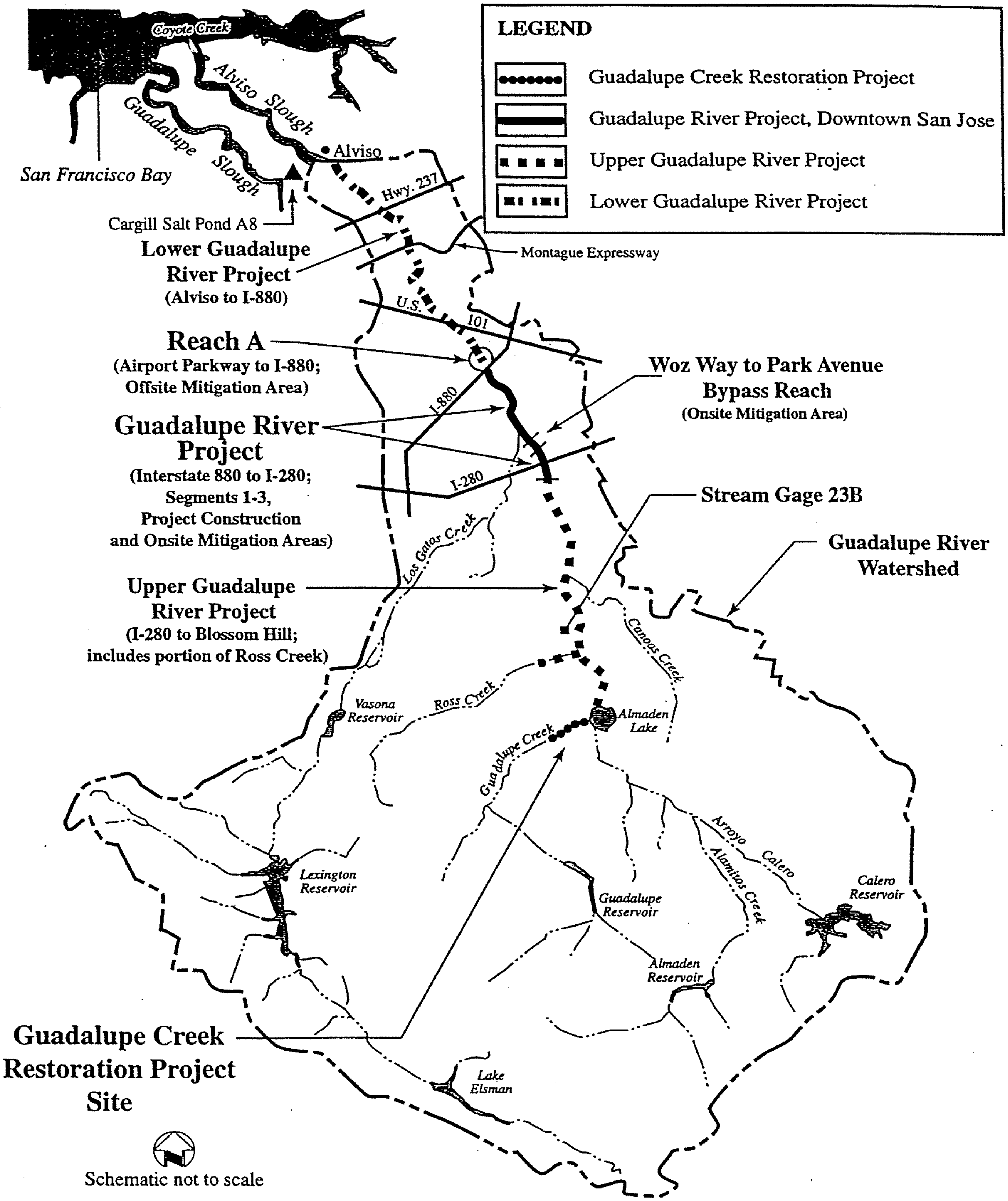

LEGEND
Guadalupe Creek Restoration Project
Guadalupe River Project, Downtown San Jose
Upper Guadalupe River Project
Lower Guadalupe River Project
Coyote Creek
Alviso Slough
Guadalupe Slough
San Francisco Bay
Alviso
Hwy. 237
Cargill Salt Pond A8
Lower Guadalupe River Project (Alviso to I-880)
Montague Expressway
U.S. 101
Reach A (Airport Parkway to I-880; Offsite Mitigation Area)
Woz Way to Park Avenue Bypass Reach (Onsite Mitigation Area)
I-880
Guadalupe River Project (Interstate 880 to I-280; Segments 1-3, Project Construction and Onsite Mitigation Areas)
I-280
Stream Gage 23B
Guadalupe River Watershed
Los Gatos Creek
Upper Guadalupe River Project (I-280 to Blossom Hill; includes portion of Ross Creek)
Canoas Creek
Vasona Reservoir
Ross Creek
Almaden Lake
Guadalupe Creek
Arroyo Calero
Alamitos Creek
Lexington Reservoir
Guadalupe Reservoir
Calero Reservoir
Almaden Reservoir
Guadalupe Creek Restoration Project Site
Lake Elsman
Schematic not to scale

Figure 2
Guadalupe River Watershed, Showing Locations of Guadalupe Creek Restoration Project and Guadalupe River Flood Protection Projects

Guadalupe Reservoir, located in the upper watershed, approximately 4 miles upstream from the project area, captures flow from Guadalupe Creek, Rincon Creek, and Los Capitancillos Creek. The reservoir manages drainage from the upper 6 square miles of the eastern portion of the watershed and has a storage capacity of approximately 3,740 acre-feet (SCVWD 2000). The dam was built in 1935 and is operated by the District for water supply.

The Masson Dam diversion is located immediately upstream of both the Guadalupe Creek Restoration Project and the Los Capitancillos Wetland Project area. The dam is operated by the District to divert flows during summer months into the Los Capitancillos percolation ponds. Flashboards are routinely installed in April and removed prior to the flood season if Guadalupe Reservoir reaches capacity. The Almaden Valley Pipeline also supplies water to the Los Capitancillos percolation ponds as needed. Flow diversions from the Almaden Valley pipeline are measured and regulated at a turnout located upstream of Masson Dam. Flows in the creek below the dam are regulated to maintain approximately 3-4 cfs at Masson Dam and 0.5 cfs at the Almaden Expressway.

Streamflow gage SF 43 operates approximately one mile upstream of the project site with a 12.8 square mile contributing area. The maximum recorded (1930-1999) peak discharge of 2770 cubic feet per second (cfs) occurred at this gage on March 10, 1995. Values from a recent flow magnitude-frequency analysis based upon annual peak discharges at SF 43 are shown in Table 1. The peak recorded event from March 1995 represents approximately a 45-year event (SCVWD 2000).

Table 1. Flow Magnitude-Frequency

Return Period (year)	Peak flow at SF 43 (cfs)
1.5	190
2	320
5	790
10	1270
50	2900
100	3880

Source: SCVWD 2000

In terms of flow duration, streamflow at the project site is highly regulated by the timing of Guadalupe Reservoir releases and the diversion of flows from the Masson Dam to the adjacent sequence of percolation ponds. At SF 43, mean daily flows greater than 100 cfs occur less than 2% of the time; daily flows larger than 11 cfs occur only 10% of the time; and flows greater than 3 cfs occur 85% of the time. During severely dry years such as 1976-77, the Guadalupe Creek was entirely dry at SF 43 from June until October.

2.2.3 Surface Water Quality

Upstream of the project area, Guadalupe Creek flows through undeveloped mountainous areas, open space, rural and medium- and high-density urban residential developments; therefore, potential sources for water quality impacts to the creek system are diverse. No routine water-quality monitoring is presently performed on Guadalupe Creek; therefore, minimal water quality information is available. Analyses augmenting existing data were performed in September 2000 for the Guadalupe Creek Restoration Project (SCVWD 2000).

Water samples from eight sites between Masson Dam and the Almaden Expressway were collected in relation to the Guadalupe Creek Restoration Project (SCVWD 2000). Four additional samples were collected at sites upstream of Masson Dam. Water samples were collected in midstream and at middle depths. Water quality analysis results are summarized below in Table 2. Mercury is the parameter of most concern, especially in the form of methyl mercury, due its propensity to be readily absorbed in aquatic fish, plants, and wildlife and accumulate in their tissues (SCVWD 2000).

2.2.4 Groundwater Hydrology

Groundwater elevations decrease significantly relative to surface water elevations with increasing distance from the creek channel, signifying groundwater depletion in the vicinity of the Los Capitancillos site (SCVWD 2000). However, down stream of the Los Capitancillos site on the opposite side of Guadalupe Creek, the District is actively recharging the groundwater table through the operation of the Los Capitancillos Percolation Ponds.

2.3 HYDRAULICS

HEC-RAS hydraulic modeling of surface water flow in Guadalupe Creek has been performed for the Guadalupe Creek Restoration Project in order to simulate flow depth, and velocity profiles under existing conditions at several cross sections for flood recurrence intervals of 1.5-, 2-, 3-, 5-, 10-, 50-, and 100-years (Jones & Stokes 2000). The model results indicated that flood frequencies of 5 years and less are confined to the channel without backwater effects from bridges or other flow constricting obstructions. In contrast, flood frequencies of 10 years or more tend to overtop the channel upstream of Masson Dam, flow over the floodplain adjacent to Los Capitancillos Drive and re-enter the creek approximately 200 feet downstream of Masson Dam. The 50- and 100-year estimated floods extended onto higher benches within the channel, spreading out onto the broader floodplain (SCVWD 1999, SCVWD 2000). The flood insurance rate maps (FIRM maps) approved by the Federal Emergency Management Agency have consistent results, illustrating similar boundaries for the 100-year flood event.

Table 2. Summary of Guadalupe Creek Water Quality Results

Parameter	Minimum	Maximum	Mean
Within Project Reaches			
PH	6.5	8.1	7.7
Conductivity (mS)	0.340	0.360	0.339
Temperature (°C)	14.0	19.8	17.4
Dissolved Oxygen (mg/l)	4.40	11.4	9.09
Turbidity (NTU)	0	55	25
Suspended Solids (mg/l)	<10	13	<10
Dissolved Organic Carbon (mg/l)	<1	1.17	<1
Total Organic Carbon (mg/l)	<1	1.36	<1
Methyl Mercury (ng/l)	0.315	0.934	0.570
Total Mercury (ng/l)	11.6	73.9	32.0
Upstream from Project Reaches			
PH	8.0	8.2	8.1
Conductivity (mS)	0.303	0.308	0.306
Temperature (°C)	14.7	15.6	15.0
Dissolved Oxygen (mg/l)	4.44	5.47	5.04
Turbidity (NTU)	2.0	16	6.5
Suspended Solids (mg/l)	NA	NA	NA
Dissolved Organic Carbon (mg/l)	<1	1.12	<1
Total Organic Carbon (mg/l)	<1	<1	<1
Methyl Mercury (ng/l)	0.720	1.610	1.035
Total Mercury (ng/l)	38.6	1380	403.8

Abbreviations: mS milliSiemens NTU nephelometric turbidity unit
mg/l milligrams per liter Ng/l nanograms per liter
NA not available

Source: Tetra Tech pers. comm..

Source: SCVWD 2000

3. LOCAL SETTING

3.1 GEOMORPHOLOGY

The project site is a floodplain area that was likely frequently inundated by Guadalupe Creek flows prior to the introduction of human disturbances in the watershed such as urbanization, agricultural practices, gravel mining, dam construction, channel realignment and levee construction. The creek reach along the project area has become deeply incised 10 feet or more below the flood plain. Steeply-sloped banks with a few small intermediate benches characterize this channel reach. The channel cross section is narrow with flow confinement, allowing higher sediment transport capacity. In this state, only extreme flood events, at approximately the magnitude of a 25-year flood event or greater, will inundate the floodplain terrace of the Los Capitancillos project (project) site.

The Guadalupe Creek Restoration Project modified the channel adjacent to the project area in order to increase channel flow capacity and reduce sediment transport. Woody material has been placed in the erosion cusp at the toe of the bank to protect the maintenance road, shelter young riparian vegetation and provide additional planting sites. Changes to the southern bank of the channel reach have altered the landscape adjacent to the project site. A broad lowered floodplain surface was created along the stream at the edge of the wetland site, and grading along the Guadalupe Creek Floodplain was performed to prevent all but the highest flood flows from entering the project area.

The project site drains into a well-vegetated ditch at the eastern boundary of the site that flows southwest to northeast along Coleman Avenue and empties into Guadalupe Creek. The ditch is lined with Sycamore trees and appears to have a consistent source of water. The ditch was either a paleochannel or an irrigation ditch, excavated for water supply when the land was used for agriculture (SCVWD 2000).

3.1.1 Geology and Soils

Laboratory testing was performed on samples collected from four exploratory borings and six test pits to determine subsurface conditions at the project site (Parikh Consultants, Inc. 2000). Based on the boring and pit data, the site is generally underlain by a layer of very stiff to hard sandy lean clay with gravel, sandy silt, and silty sand, having thickness of 1.5 to 3.5 feet. Native weakly cemented gravels and cobbles, containing sand and clay matrix, underlie this layer. These deposits are medium dense to very dense, extending throughout the explored depth of 31 feet. They typically contain well-graded to poorly-graded gravels and cobbles with sand, clay, and silt. Occasional interbedded layers of sandy lean clay and clayey sand were encountered. Artificial fill was encountered in the northeast corner of the project site.

H.T. Harvey & Associates (HTH) conducted a soils investigation to assess the site soil suitability for wetland habitat establishment (HTH 2000). Soil texture and fertility were the primary features analyzed to determine the suitability of the in situ soil. The soil profile was characterized in six test pits and soil fertility was assessed by laboratory analysis of composite soil samples. The results indicated that the subsoils (C horizons) at the approximate wetland design grade were not suitable to support rapid establishment and high productivity of wetland vegetation. They are unsuitable due to their high rock and gravel content, low organic matter content and relatively high ratio of magnesium to potassium and calcium.

Sediments present in the Guadalupe Creek drainage, including the project site, have been impacted by mercury from historic mining in the watershed. Mercury is of particular concern in a wetland setting due to the potential for methyl mercury formation at the oxic/anoxic interface normally found near the soil surface. Soils at the site were sampled and analyzed for total mercury and extractable mercury (WET test).

A total of 56 soil samples have been measured for mercury within the main Los Capitancillos area, and four additional samples to the north near the bank of the creek. The mercury concentrations in soil of the combined data set at the site ranged from <0.02 to 15 mg/kg (wet weight). For thirty samples at depths from 0 to 8 feet taken at six locations at the project site in November 2000, the average total mercury concentration among all samples was 1.75 mg/Kg (wet weight) and the total mercury concentration ranged from 0.17 to 15 mg/Kg (wet weight). Mercury concentrations were higher at the surface and decreased with depth. The total mercury concentrations averaged 3.85 mg/Kg (wet weight) for samples collected at the surface and 0.54 mg/Kg (wet weight) for samples collected depth of 8 feet. The mercury concentration threshold for soil to be classified for disposal as hazardous waste based on the TTLC (Toxic Threshold Limit Concentration), is 20 mg/kg (wet weight); thus, none of the samples tested would be classified as hazardous waste.

The second criterion for determining if a material is classified as a hazardous material is the STLC (Soluble Threshold Limit Concentration) limit of 0.2 mg/L. If the soil or other material is greater than ten times the STLC limit in units of mg/kg, i.e., 2 mg/kg for mercury, the Waste Extraction Test (WET) must be conducted. The WET leachate concentrations were measured on 36 samples from the planned wetland area. The mercury concentrations in all 36 samples were less than the STLC limit of 0.2 mg/L.

Both total and extractable mercury concentrations fell below hazardous waste concentrations for all soil sample locations and depths. Mercury concentrations at the levels found at the project site do not represent a human health hazard. Nonetheless, the total mercury concentration exceeded the SFRWQCB screening criteria for wetland cover soil at the majority of sample locations and depths. The San Francisco Regional Water Quality Control Board (RWQCB 2000) draft screening criteria for wetland cover soil is 0.4 mg/kg (dry weight).

3.2 HYDROLOGY

3.2.1 Climate

The nearest gaging station to the project site is at the Alamitos Percolation Pond located approximately 2 miles away from and at an elevation approximately 60 feet below the project site. Average annual rainfall and evaporation recorded at the Alamitos Percolation Pond are 16.2 and 41.9 inches, respectively. However, since the project site is higher in elevation than the Alamitos Percolation Pond, rainfall at the project site should be higher than at the gaging station at the Alamitos Percolation Pond. The mean annual precipitation maps provided by Santa Clara County, indicate that the project site experiences a mean annual precipitation of approximately 20 to 21 inches (Santa Clara County 1994).

3.2.2 Surface Water Hydrology

The project site is situated on the floodplain of Guadalupe Creek. Precipitation on the project site enters the Guadalupe Creek system as surface runoff or subsurface flow. As a result of grading separating the project site from the Guadalupe Creek Floodplain, precipitation on the project site will runoff into the Guadalupe Creek by way of the channel, located on the eastern boundary of the project site. The project site contributes up to approximately 3 cfs to the 100-year peak flows in Guadalupe Creek (PWA 2002).

3.2.3 Surface Water Quality

Water quality parameters important in the project area include temperature, suspended sediment, and mercury. Temperature and suspended sediment are important parameters due to the presence of salmonids in Guadalupe Creek. Sediment exchange is also important because mercury-containing sediments are known to be present in the Guadalupe Creek drainage and on the project site. However, water quality data for runoff from the project site has not been collected.

3.2.4 Groundwater Hydrology

Field studies were conducted by Parikh Consultants, Inc. to determine the general subsurface conditions at the project site (PCI 2000). Three monitoring wells were constructed on the site to monitor groundwater levels. Groundwater depths were subsequently measured on a monthly basis between June 2000 and July 2001, and ranged from 7.9 to 10.6 feet bgs with an average of 9.2 feet bgs. The measured groundwater elevations roughly coincided with water levels in Guadalupe Creek. These measurements agree with measurements collected in the vicinity of the project site for the Guadalupe Creek Restoration Project (SCVWD 2000). Those studies also indicate that groundwater is flowing away from Guadalupe Creek, indicating that Guadalupe Creek is providing recharge to the groundwater table in the vicinity of the project site (SCVWD 2000).

3.3 HYDRAULICS

Hydraulic modeling of Guadalupe Creek in the vicinity of the project site indicates that channel erosion and incision have reduced the frequency with which flood flows in Guadalupe Creek exceed the height of the channel banks and inundate the adjacent floodplain. HEC-RAS hydraulic modeling of surface water flows in Guadalupe Creek have been performed for the previous conditions and after implementation of the Guadalupe Creek Restoration Project (SCVWD 2000). Water surface elevations and velocity profiles at several cross sections were predicted for flood recurrence intervals of 1.5-, 2-, 3-, 5-, 10-, 50-, and 100-years (SCVWD 2000).

The model results indicate that for the previous conditions, the 50- and 100-year estimated floods extended onto higher benches within the channel, spreading out onto the broader floodplain including the project site (SCVWD 2000). Figure 3 shows the estimated 100-year flood limits before completion of the Guadalupe Creek Restoration project. The flood insurance rate maps (FIRM maps) approved by the Federal Emergency Management Agency also indicate that the project site is within the boundaries for the 100-year flood event.

As a result of the Guadalupe Creek Restoration Project, grading along the southern floodplain of the creek adjacent to the project site will contain the 100-year flood event in the channel. The water surface elevations predicted at cross sections along the project site levee for the 10-, 50-, and 100-year return period summarized in Table 3. The estimated 100-year flood limits after completion of the Guadalupe Creek Restoration project are shown on Figure 4.

Table 2. Estimated Guadalupe Creek Water Surface Elevations

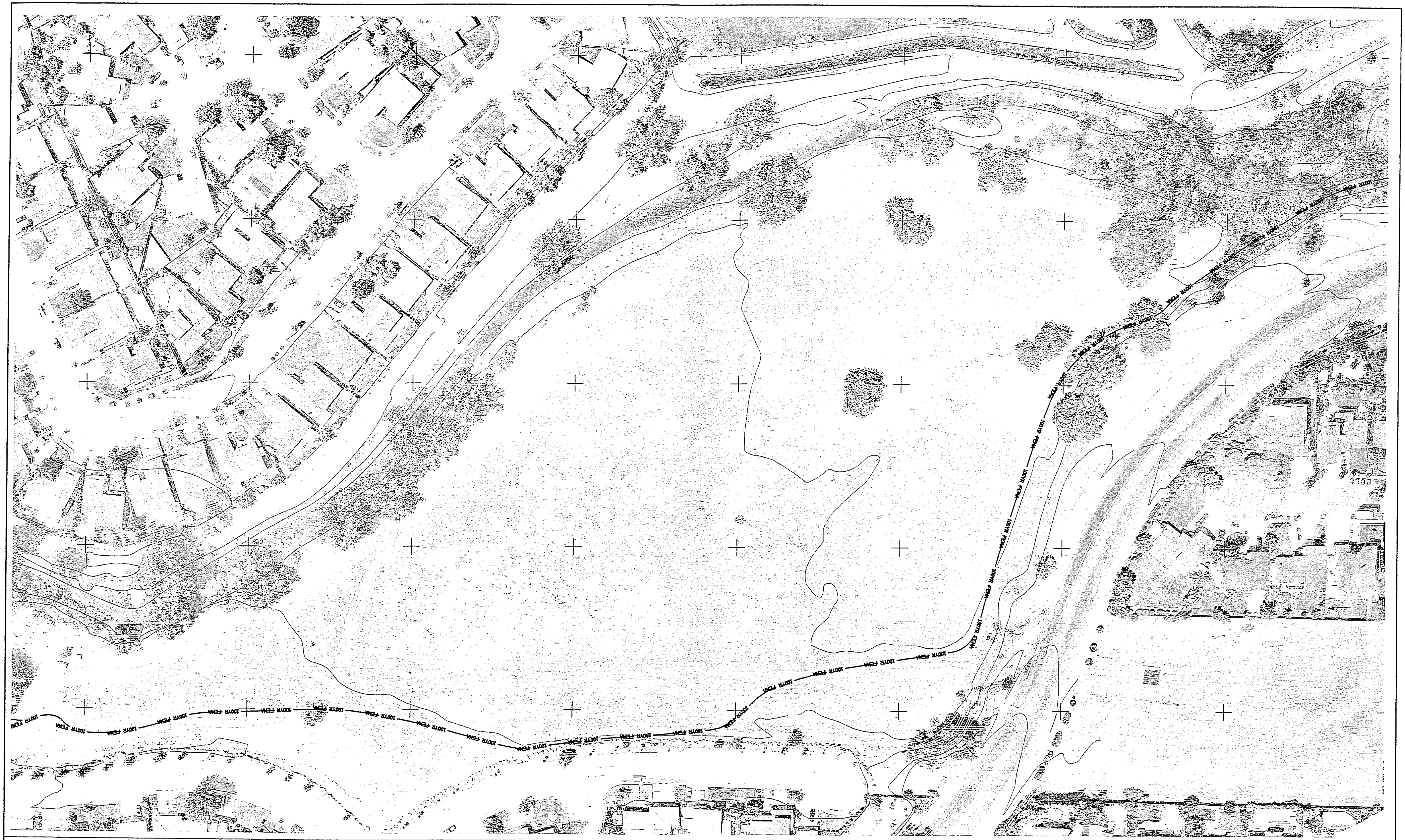
10-Year, 50-Year, and 100-Year Return Period Discharges

	Water Surface Elevation (Feet)		
Cross Section	10-Year	50-Year	100-Year
1210	237.50	239.99	241.17
1215	238.73	241.07	241.96
1220	239.72	241.77	242.58
1225	240.61	242.68	243.72
1230	242.65	244.97	245.63
1235	244.26	246.09	246.49
1240	245.77	247.27	248.06
1245	246.55	248.45	248.94
1250	246.78	248.76	249.72

Source: SCVWD 2000

3.4 SUMMARY

In summary, the existing incised channel has reduced seasonal inundation of the floodplain on the project site. Only flood events with recurrence intervals of approximately 25-years or greater are capable of overtopping the channel banks and spreading across the floodplain. As a result of construction of the Guadalupe Creek Restoration Project, the existing flood plain has been graded and expanded adjacent to the project site. These modifications will enable the channel to convey a 100-year flood event without overtopping and flooding the site. This constraint is necessary to avoid deposition of mercury-containing sediments in the wetland site under most flood conditions.



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REVISIONS				
NO.	DATE	BY	DESCRIPTION	
				DESIGNED BY MRL
				DRAWN BY EBH
				CHECKED BY AEB
				IN CHARGE EA

CERTIFICATIONS:

APPROVED ______ DATE ______

APPROVED ______ DATE ______

Los Capitancillos
Freshwater Wetland Mitigation Project
Santa Clara Valley Water District

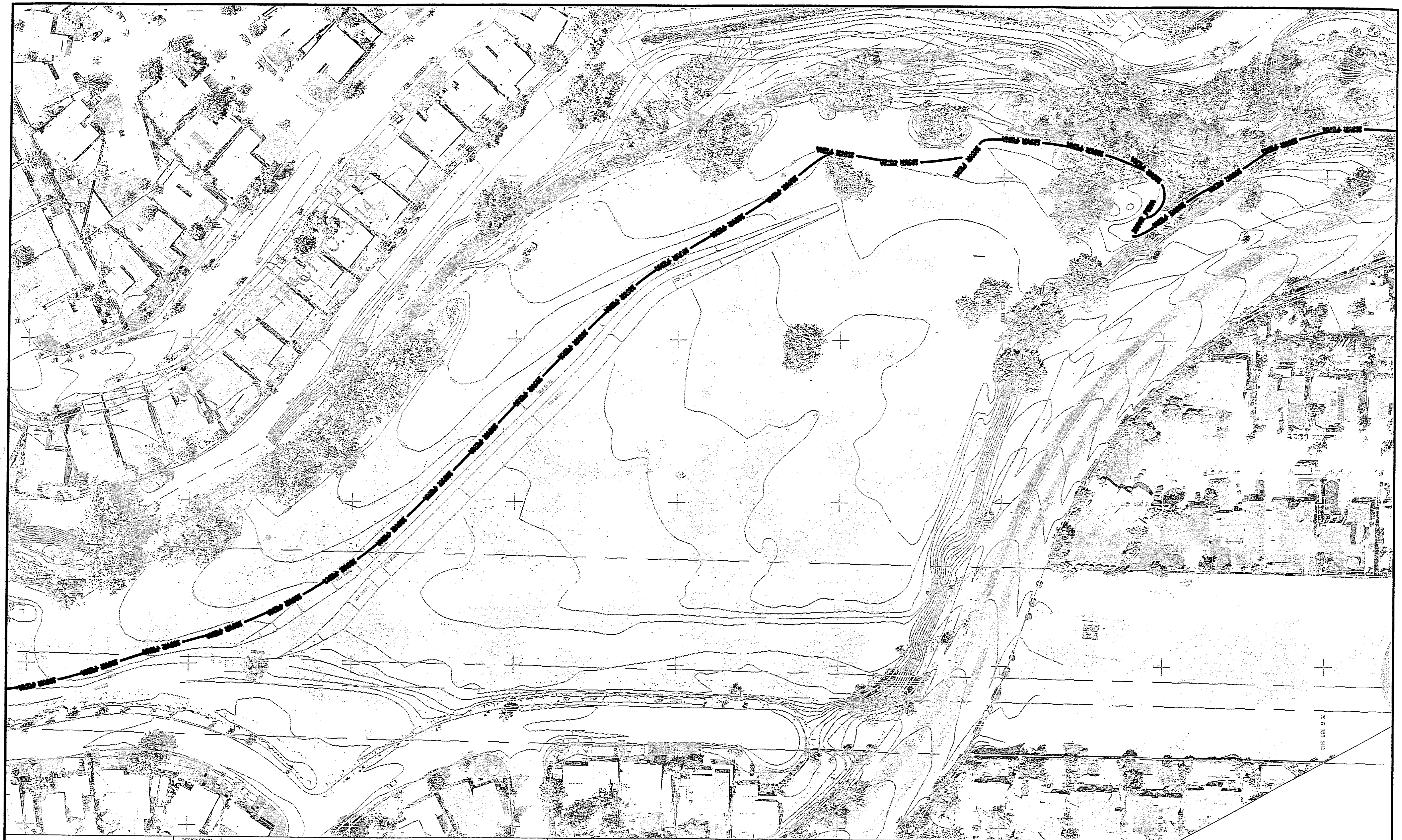
PREPARED BY:

PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
770 TAMALPAIS DRIVE, SUITE 401
CORTE MADERA, CALIFORNIA 94925
PHONE (415) 945-0600 FAX (415) 945-0606

IN COOPERATION WITH:

Figure 3:
100-Year Flood Limits Before Guadalupe Creek Restoration Project

DATUM	SCALE	CONTOUR INTERVAL	DATE	JOB NO.	SHEET	OF
NGVD '29	1"=50'	1'	02/12/02	1425-08	1	2



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LOT SCALE: 1=1

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED BY
MRL
DRAWN BY
EBH
CHECKED BY
AEB
IN CHARGE
EA

CERTIFICATIONS:

APPROVED
DATE

APPROVED
DATE

Los Capitancillos
Freshwater Wetland Mitigation Project
Santa Clara Valley Water District

PREPARED BY:

PWA

PHILIP WILLIAMS & ASSOCIATES, LTD.
770 TAMALPAIS DRIVE, SUITE 401
CORTE MADERA, CALIFORNIA 94925
PHONE (415) 945-0600 FAX (415) 945-0606

IN COOPERATION WITH:

Figure 4:

100-Year Flood Limits After Guadalupe Creek Restoration Project

DATUM	SCALE	CONTOUR INTERVAL	DATE	JOB NO.	SHEET	OF
NGVD '29	1"=50'	1'	3/28/02	1426-06	2	2

4. HYDROLOGIC IMPACTS

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:

a) Violate any water quality standards or waste discharge requirements?

The project is not expected to result in violations of water quality standards. The present water quality standards for inorganic mercury include: 1) 0.051 µg/L for California inland surface waters that are not drinking water sources, 2) 0.77 µg/L for the 4-day average of the US EPA ambient freshwater criteria, and 3) 1.4 for the 1-hour maximum concentration of the US EPA ambient freshwater criteria (Marshak, 2000). The expected total mercury concentration from the planned wetland discharge is less based on monitoring of the planned water sources. Total mercury concentrations in 24 water samples from the Almaden Valley Pipeline to the intake at the Santa Teresa Treatment Plant were less than 1 µg/L between 8/99 and 7/01. A water sample from Calero Reservoir in January 2001 analyzed using the trace level methods had a total mercury concentration of 0.00146 µg/Land a methyl mercury concentration of 0.00075 µg/L.

Waste discharge requirements are expected to be to maintain any discharge to surface waters below the above water quality standards. Thus, the project is not expected to result in any violations of waste discharge requirements.

The pertinent criteria for groundwater is the California maximum contaminant level (MCL), which is 2 µg/L for inorganic mercury. The Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goal in Drinking Water is 1.2 µg/L. As shown above, the expected total mercury concentrations are less than either of these criteria.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The project is expected to enhance local groundwater recharge through percolation of water from the new wetland into the subsurface. Therefore, the project would not deplete groundwater supplies, decrease aquifer volume, or lower the local groundwater table level.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project will not contribute water to any existing or planned stormwater drainage systems. As noted above, the project could result in a small increase in the amount of surface runoff potentially entering Guadalupe Creek. However, peak flow rates leaving the site will not be increased and the effects of any increases in surface runoff volumes would be minor. The additional surface runoff from the wetland would be water from the Almaden Valley Pipeline which overall does not constitute a source of polluted runoff.

f) Otherwise substantially degrade water quality?

Mercury: As explained under question a) above, the expected total mercury concentration in the wetland water is expected to be less than the applicable water quality standards. There is no similar standard for methyl mercury. The discharge from the wetland to the creek could have higher methyl mercury concentrations than the original intake water from the pipeline. The project has been designed to minimize the potential for increases in methyl mercury.

MITIGATION

The standing water in the wetland and any discharge to Guadalupe Creek will be monitored. If elevated methyl mercury concentrations are detected above the project success criteria, further mitigation methods will be implemented as outlined in the Monitoring and Mitigation Plan for the project.

Temperature: Operation of the wetland would be considered to have a significant thermal impact on salmonids (steelhead and Chinook salmon) if the wetland seepage to the creek were to increase existing Guadalupe Creek temperatures to lethal/unacceptable levels for the life stages of salmonids likely present in the creek during the season of anticipated thermal effects. A preliminary thermal analysis of the potential thermal impact of the wetland on the aquatic conditions in Guadalupe Creek in included as Appendix (PWA 2002). The potential for impacts during high creek flows (primarily December – March) was discounted, as direct outflows from the wetland to the creek will be very rare and extremely small compared to the high creek flow conditions that would exist during such storm events. In addition, creek and wetland temperatures will both be relatively low during storm events, further reducing the potential for any thermal impact from the wetland under these conditions. Thus, the thermal analysis focused on the potential for percolated water from the wetland to flow to the underlying groundwater reservoir and from then flow to the creek as subsurface flow.

The preliminary thermal analysis very conservatively assumed that 50% of the water leaving the wetland during the annual drawdown would flow to the creek without cooling, and that the creek flow was representative of its annual minimum, and that temperatures fell within a range representative of historic

h) Place within a 100-year flood hazard area structure, which would impede or redirect flood flows?

The project will place some earth fill in an area that is currently mapped as a 100-year flood hazard area in the federal Flood Insurance Rate Map. Because this fill would be located in an upland area of the site at the perimeter of the flood hazard zone, it would not impede or redirect flood flows. The grading that separates the site from Guadalupe Creek was included in the HEC-RAS modeling performed for the Guadalupe Creek Restoration Project EIR. The HEC-RAS model results indicated that the placement of fill at the site will not increase the risks of flooding in Guadalupe Creek downstream of the site.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No people or structures would be exposed to significant risk of loss, injury or death as a result of this project.

j) Inundation by seiche, tsunami, or mudflow?

There is no potential for innundation due to seiche, tsunami, or mudflows.

5. LIST OF PREPARERS

This report was prepared by the following PWA staff:

- Elizabeth Andrews, P.E. – Project Director
- Jeremy Lowe – Project Manager
- Christie Beeman – Senior Associate
- Mark Lindley – Associate
- Rose Patenaude – Hydrologist

6. REFERENCES

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PWA
PHILIP WILLIAMS & ASSOCIATES
CONSULTANTS IN HYDROLOGY
720 CALIFORNIA ST., 6TH FLOOR, SAN FRANCISCO, CA 94108
TEL 415.262.2300 FAX 415.262.2303
SFO@PWA-LTD.COM

MEMORANDUM

DATE: March 22, 2002

TO: Files

FROM: Erich Hester and Betty Andrews, P.E.

RE: Los Capitancillos Freshwater Wetland Thermal Analysis
PWA REF. #: 1426-
12

THERMAL ANALYSIS

The thermal analysis sought to estimate the potential long-term impact of the wetland on the adjacent Guadalupe Creek. The analysis specifically evaluated the period during late summer when inflow is stopped and the pond is drained because both the temperature of the water in the wetland and the outflow through groundwater to the creek are likely to be at their annual peaks at this time. In addition, it is a time of low creek flows, suggesting that wetland impacts to creek temperature are likely to be the greatest at this time. The analysis estimated the range of potential impacts, given the range of possible meteorological and hydrologic conditions, and evaluated the uncertainty in estimating certain key parameters.

CONCEPTUAL MODEL

The thermal processes involved can be separated into the following: those that occur in the wetland, those that occur in groundwater as it travels away from the wetland, and those that occur as some portion of that groundwater potentially intercepts the creek. These processes are summarized in the following table:

Location	Thermal Processes
Wetland	• mixing of inflow with existing water in the wetland • advection and diffusion of heat within the wetland • transfer of heat between the wetland and the atmosphere through evaporation, condensation, convection, conduction and sensible heat transfer • radiative transfers between the sun, atmosphere, vegetation and the water • percolation of water to the subsurface
Groundwater	• advection of water away from the wetland and infiltration system in all directions • removal of water through evapotranspiration through willows and cottonwoods surrounding the wetland • heat dissipation through diffusion and conduction within the aquifer
Creek	• mixing of groundwater with creek water

	humidity were set to conservative mean monthly values for August for San Jose. Conservative means the highest monthly average temperature and lowest monthly average wind speed for the period of record (1987-2001). • Percent possible sun was varied during testing of the model based on data from the percolation ponds across the creek (see below)
Shading	Consistent with eventual expected shading by emergent vegetation in the wetland. As a simplifying and conservative assumption, shading by riparian vegetation was not included.
Riparian Evapotranspiration	Consistent with minimum and maximum likely evapotranspiration rates.
Migration through Groundwater	• Wetland and infiltration system percolation rate was set to its expected long term rate during drawdown of 0.15 cfs[1]. • Half the water percolating from the wetland and infiltration pools was assumed to flow to the creek. This is very conservative. • Dispersion and conduction of heat in groundwater was assumed not to occur. This is conservative.
Mixing in Guadalupe Creek	• Flow in the creek was assumed to be at its annual minimum. • Temperatures in the creek were based on recent historic temperatures for the first week in September (1996-2000)

SNTEMP TESTING USING PERCOLATION PONDS

Water temperature data from the percolation ponds across the creek were used to test the application of SNTEMP to a similar water body in the project area setting. Temperature and flow rate date were available for the first two percolation ponds. The second pond was chosen to test SNTEMP because it is more similar to the proposed wetland than the first pond, where water flows around multiple dividers for the purpose of sedimentation. The test run was done for a day in early September 1998. Meteorological were data gathered and entered for this day, with the exception of percent available sun. Data for this variable was difficult to locate quickly; this variable was instead used as a calibration parameter.

The initial results of the SNTEMP model for percolation pond 2 was an over-prediction of temperature relative to measurements. It is expected that this over-prediction stems from areas where model sensitivity intersects with the greatest uncertainty in the input values. The most likely candidates for this are:

- Percent sunshine: this was left at 100%, which is conservative. Even as far south as the project site within the San Francisco Bay Area, there may be residual cloudiness in the morning from the daily overnight marine layer intrusion.
- Effect of conduction between water and air: this process was ignored due to significant uncertainties, and would have the potential to cool or heat the water.

---

[1] Percolation rates for the wetland in initial years of the project may be higher, depending on the characteristics of the soil liner material used. However, these are expected to decline over time. Thus, the total wetland and percolation system outflow of 0.15 cfs to achieve drawdown in four weeks is a reasonable long-term estimate of the probable high percolation rate.

APPENDIX E:

BIOLOGICAL RESOURCES

LOS CAPITANCILLOS WETLAND MITIGATION PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT BIOLOGICAL RESOURCES SECTION

Prepared by:

H. T. Harvey & Associates
Daniel Stephens, B.S., Principal
Patrick Reynolds, M.S., Division Head, Senior Restoration Ecologist
Max Busnardo, M.S., Project Manager, Restoration Ecologist
Scott Terrill, Ph.D., Senior Wildlife Ecologist
Patrick Boursier, Ph.D., Senior Plant Ecologist
Thomas Ryan, M.S., Wildlife Ecologist
Andrew Dilworth, B.S., Plant Ecologist

Prepared for:

Betty Andrews
Philip Williams & Associates
720 California Street, Suite 600
San Francisco, CA 94108

March 29, 2002

Project # 1700-01(5.2.1)

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PROJECT DESCRIPTION

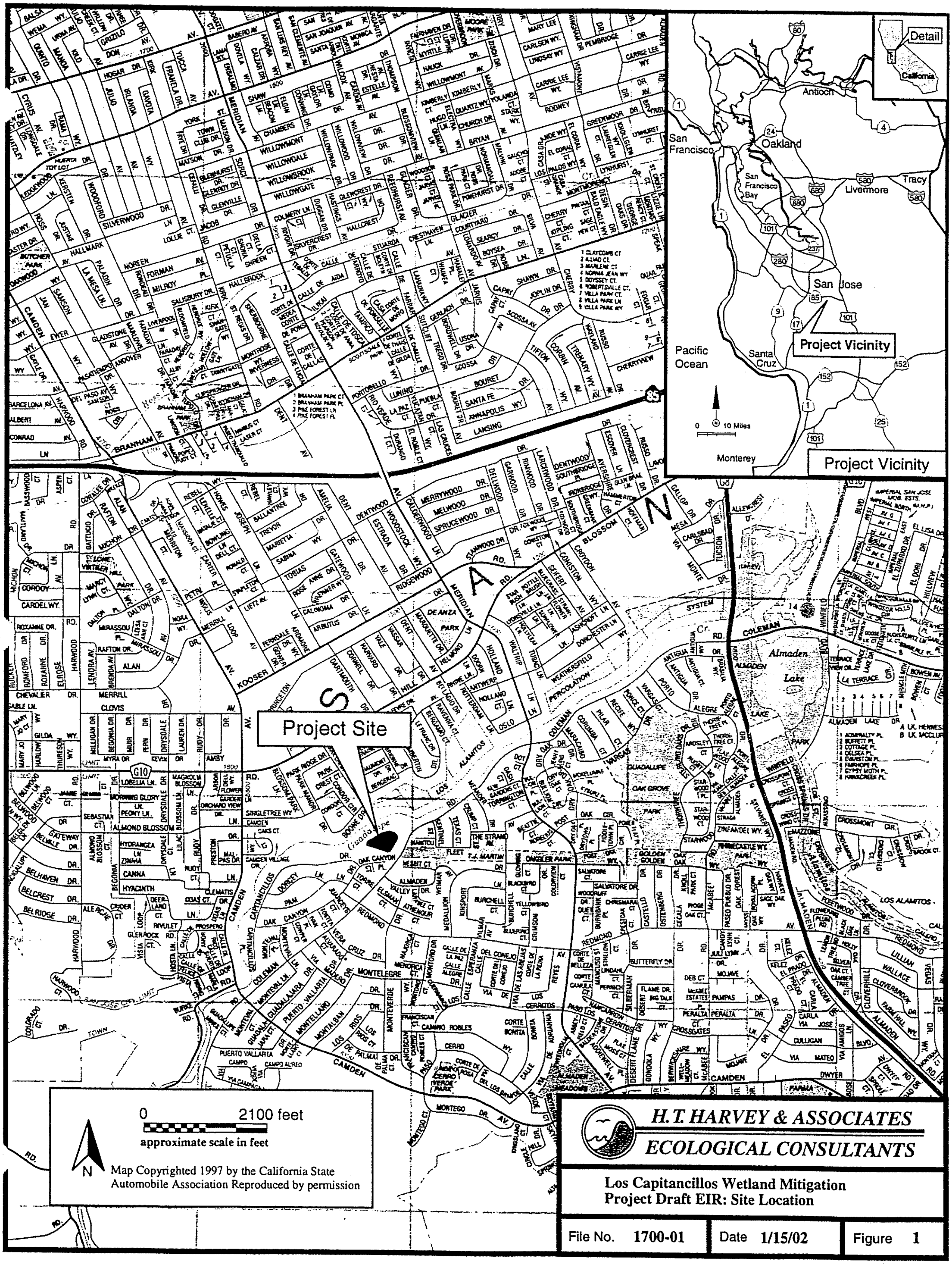
OVERVIEW

The Los Capitancillos Freshwater Wetland Mitigation site (site) is located on a relatively level floodplain terrace adjacent to Guadalupe Creek in San Jose, Santa Clara County, California (Figure 1). Coleman Road and Oak Canyon Place border the site to the south. Further south, an urban residential neighborhood now covers the historically wider floodplain. The Santa Clara Valley Water District (SCVWD) currently owns the site.

The overall goal for the Los Capitancillos Freshwater Wetland Mitigation Project is to create the maximum acreage possible within the site of new wetland and riparian habitat with high habitat values for wildlife. The project will provide 0.6 acres of freshwater wetland mitigation for the SCVWD's 1997 Urgent Sediment Removal Project, 1.9 acres for the Year 2000 maintenance projects, and additional wetland acreage to mitigate for anticipated, future, wetland impacts. A preliminary Mitigation and Monitoring plan for the Los Capitancillos project was submitted to the U. S. Army Corps of Engineers (USACE) in 1998 to fulfill the special conditions of the 1997 permit (SCVWD 1998).

This biotic resources assessment was conducted on the 30% design for the preferred project alternative. The preferred alternative is the construction of an approximately 4.3 acre near-perennial freshwater wetland. High quality habitat for a diversity of wetland and riparian dependent wildlife species would be created by construction of a mosaic of habitat types including open water (with deep and shallow areas), emergent marsh, and riparian habitats. The design also includes restoration of oak woodland habitat as an enhancement measure between the wetland and the adjacent Guadalupe Creek. The open water and tall emergent marsh will occur within the wetland (ponding area), while the riparian habitat will be located around the outer perimeter of the wetland. The grading plan incorporates deeper open water habitat and maximizes wind fetch to both achieve the habitat objectives and minimize the potential for mosquito breeding. Wetland construction would involve excavation to create a naturally configured wetland basin, installation of a wetland soil-cover layer suitable for wetland plant and benthic invertebrate establishment, and planting of native wetland and riparian species. The SCVWD's adjacent Almaden Valley pipeline would be utilized as the primary water source for the wetland.

The wetland would be perennially inundated with water except for a brief annual drawdown period in September-October each year. The primary purpose of the annual drawdown is to prevent establishment of a breeding bullfrog (*Rana catesbeiana*) population. Secondary biological benefits of the drawdown include provision of foraging habitat for fall migrating shorebirds, and the minimization of the potential for eutrophication. The wetland is designed to prevent surface outflows from the wetland from reaching Guadalupe Creek except during large storms or emergencies. During the annual drawdown, the inlet will be shut off and water levels will be allowed to recede gradually via evaporation and percolation. If needed, the outflow swale between the wetland and Guadalupe Creek can be used to percolate additional water to accelerate drawdown. In addition, a network of percolation drains will be installed under the wetland soil cover to supplement percolation if needed.



Map Copyrighted 1997 by the California State Automobile Association Reproduced by permission

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Los Capitancillos Wetland Mitigation Project Draft EIR: Site Location

File No. **1700-01**	Date **1/15/02**	Figure **1**

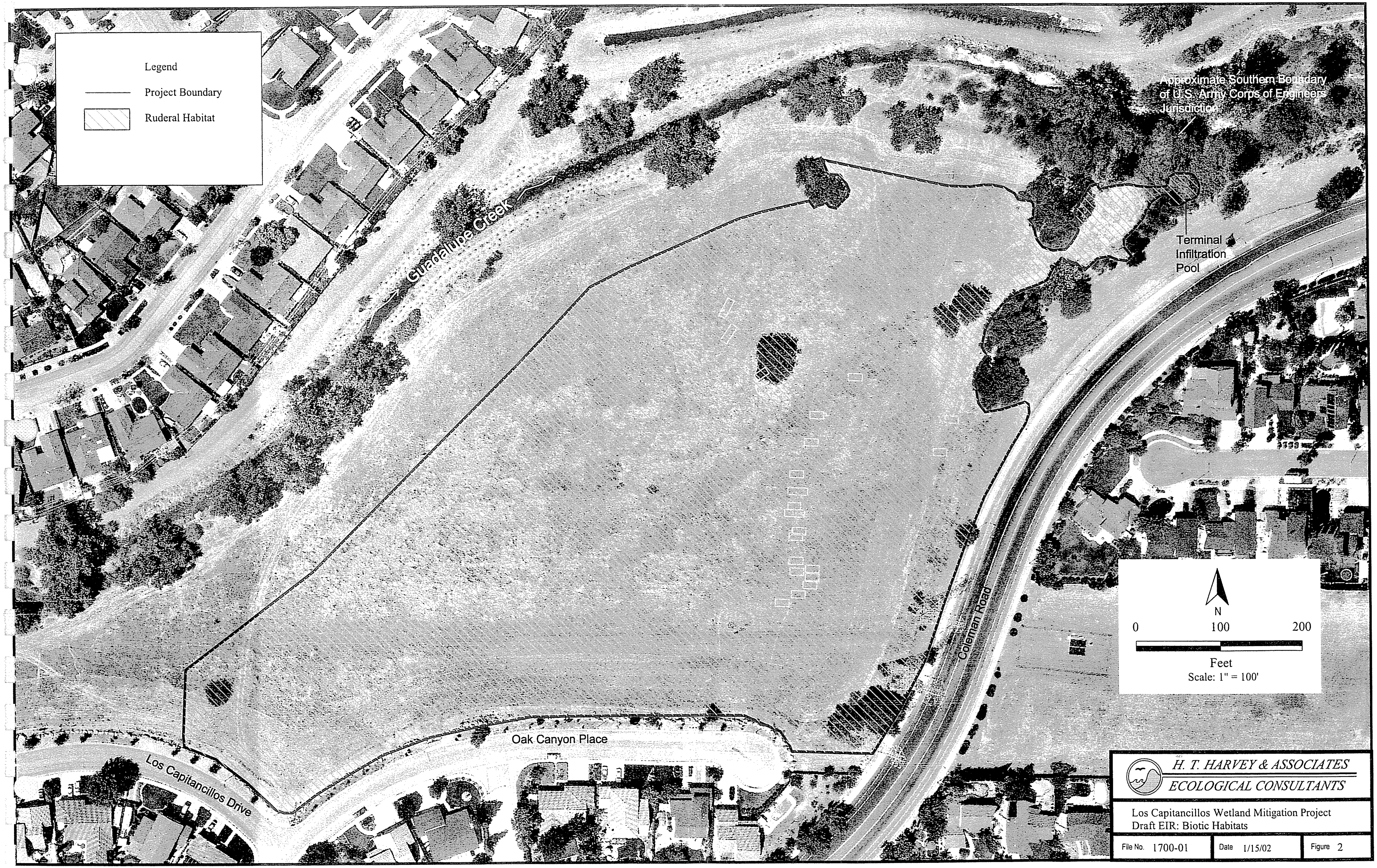
BENEFICIAL EFFECTS ON BIOTIC RESOURCES

The preferred project alternative proposes to convert a ruderal habitat to a mosaic of perennial freshwater wetland and riparian habitats. Ruderal habitat is a common, widespread habitat type regionally that provides habitat for a relatively low diversity of wildlife species. In contrast, perennial wetland and riparian habitats are recognized as sensitive habitat-types that are protected by environmental regulations due to their rarity combined with the diversity of special-status wildlife species dependent on these habitat-types. Therefore, the proposed project is expected to benefit a diversity of wetland-dependent wildlife species, including numerous special-status bird species. Open water will provide foraging areas for waterfowl, which will also use the emergent marsh for cover and foraging. The emergent marsh is will host a variety of waterbirds and passerines. The willow/cottonwood riparian habitat will provide foraging and roosting habitat for wintering passerines, stop-over habitat for migrants, and foraging areas, cover and nesting substrates for breeding birds, including Neotropical migrants. The riparian habitat will also provide cover and additional foraging area for some wetland-associated species, while the adjacent wetlands will enhance foraging opportunities for insectivorous neotropical migrants. Finally, the annual drawdown period is expected to benefit fall-migrating shorebirds by providing foraging habitat.

GENERAL SITE DESCRIPTION

The site is located in the upper Guadalupe River watershed, along Guadalupe Creek across from the Los Alamitos percolation pond system. The site was formerly used for agriculture as evidenced in historic photos, but has since come to be dominated by ruderal habitat. The site is disturbed on a regular basis by disking of a fire break along its perimeter, and more recently from activities associated with the adjacent Guadalupe Creek Restoration Project. Elevation within the project boundary begins at approximately 240 feet National Geodetic Vertical Datum (NGVD) along the creek boundary, and rises gradually to the southwest. The foothills of the Santa Cruz Mountains lie approximately 1 mile to the southwest.

The site is underlain by 2 phases of 2 soil series including: Yolo silty clay loam and Pleasanton gravelly loam, both forming 0-2% slopes (Soil Conservation Service [now Natural Resources Conservation Service] 1968). Neither of these soil phases are hydric according to the Natural Resources Conservation Service. Both soils are derived from sedimentary alluvium and are well drained. The Pleasanton soil is slightly acid at the surface and becomes neutral in the subsoil, while the Yolo soil is neutral to mildly alkaline throughout its profile. Areas with the Yolo soil typically receive a mean annual precipitation of 15-25 inches, which also includes the range for the Pleasanton soil (Soil Conservation Service, 1968).



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ECOLOGICAL CONSULTANTS

Los Capitancillos Wetland Mitigation Project
Draft EIR: Biotic Habitats

File No. 1700-01 | Date 1/15/02 | Figure 2

Ruderal Habitat

Vegetation. Approximately 10.2 acres of ruderal habitat occurs within the site. This area probably once consisted of non-native grassland habitat but is currently overrun with noxious ruderal weeds. The predominance of ruderal species is due to repeated soil disturbance. For example, the site had been subject to annual disking by the SCVWD up until 1998, and a 50-foot wide fire break along the site perimeter continues to be disked annually. A shelf along the southern perimeter of the site appears to have been created in the recent past, and to comprise primarily alluvial sidecast material; this shelf also corresponds approximately to the width of the PG&E tower line easement.

The site is dominated by non-native species such as wild oats (*Avena fatua*), and yellow star thistle (*Centaurea solstitialis*) an invasive, noxious weed. Yellow star-thistle dominates the shelf area to the south and the fire breaks. Other common species include fennel (*Foeniculum vulgare*), and wild lettuce (*Lactuca* spp.). Species such as ripgut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*) wild radish (*Raphanus sativus*), and black mustard (*Brassica nigra*) also dominate the site at other times of the year.

Various scattered trees also occupy the ruderal habitat of the site most of which are remnants of a former riparian woodland setting. These trees include valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), coast live oak (*Q. agrifolia*), and blue elderberry (*Sambucus mexicanus*). Poison oak (*Toxicodendron diversilobum*) forms a brushy understory beneath some of these trees. Several northern California black walnut (*Juglans californica* var. *hindsii*) trees occur on the site and are likely remnants from previous agricultural activities.

Finally, an approximately 0.03 acre portion of CDFG jurisdictional habitat, below the Guadalupe Creek top-of-bank, occurs on site. This area is located in the western end of the site (Figure 2) and formerly consisted of riparian scrub habitat that was cleared in the recent past. Regrowth in this area will likely result in ruderal habitat characterized by poison hemlock (*Conium maculatum*), milk thistle, and annual grasses until the willows (*Salix* spp.) and Himalayan blackberry (*Rubus discolor*) adjacent to this clearing recolonize the area. Therefore, this cleared area was mapped as ruderal habitat.

Wildlife. The ruderal habitat supports a variety of wildlife species. However, repeated discing of the site prior to 1998 has decreased habitat quality for burrowing and terrestrial organisms. Wildlife present in this habitat includes amphibians and reptiles such as the western toad (*Bufo boreas*), western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*). Birds species present include common species such as the American Kestrel (*Falco sparverius*), Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Northern Flicker (*Colaptes auratus*), Black Phoebe (*Sayornis nigricans*), Western Scrub-jay (*Aphelocoma californica*), Northern Mockingbird (*Mimus polyglottos*), California Towhee (*Pipilo crissalis*), and the House Finch (*Carpodacus mexicanus*). The site also provides habitat for grassland-associated species tolerant of disturbed habitats such as the Savannah Sparrow (*Passerculus sandwichensis*), Western Meadowlark (*Sturnella neglecta*), Lesser Goldfinch (*Carduelis psaltria*), and the American Goldfinch (*C. tristis*). Mammalian species present are typical of ruderal habitats including the desert cottontail (*Sylvilagus audubonii*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), house cat (*Felis catus*), and the black-tailed deer (*Odocoileus hemionus columbianus*).

REGULATED HABITATS AND RESOURCES

United States Army Corps of Engineers Jurisdiction

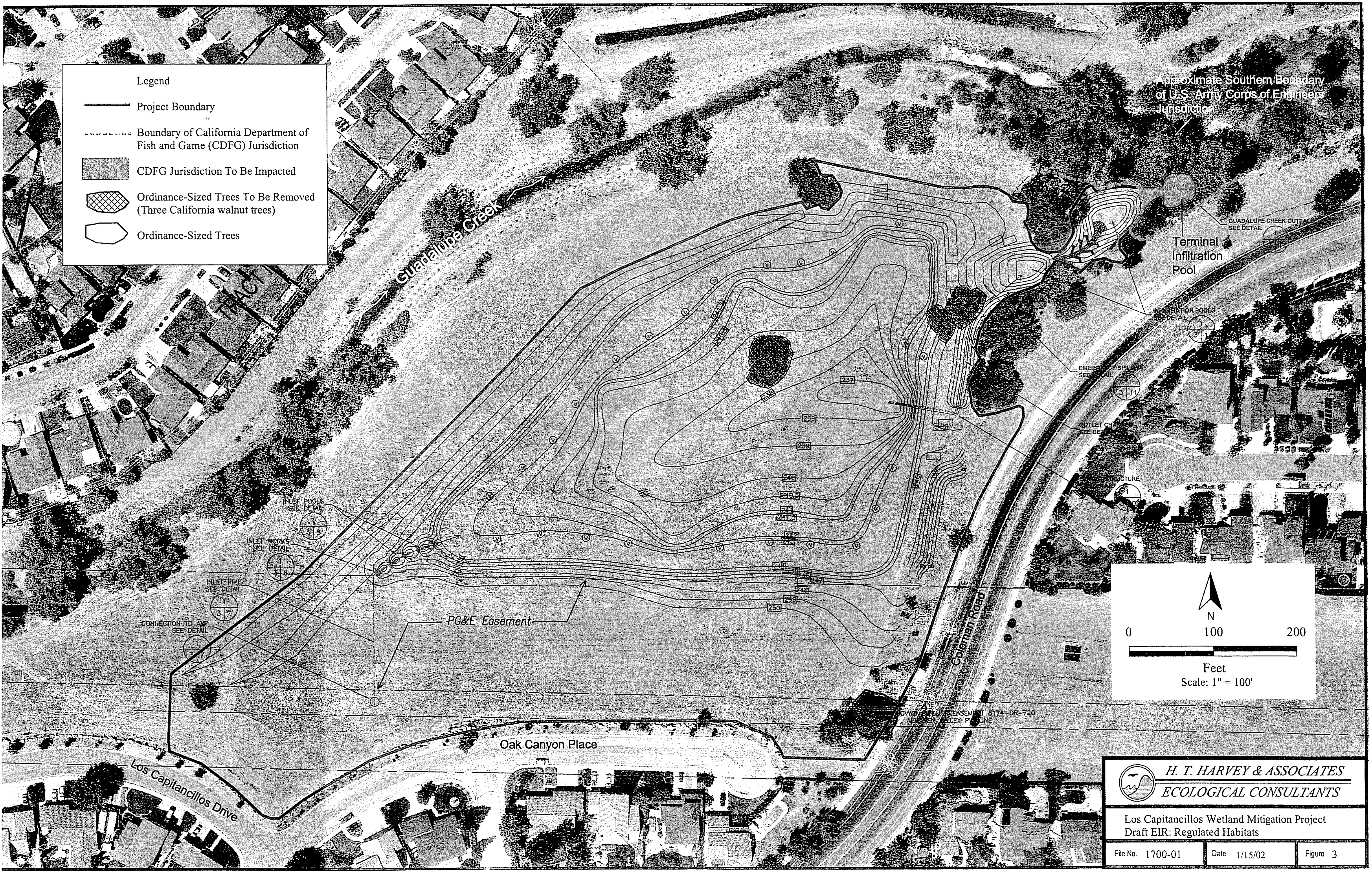
Regulatory Overview. Areas meeting the regulatory definition of "Waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE. The USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899), has jurisdiction over "Waters of the U.S." These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U. S.," tributaries of waters otherwise defined as "Waters of the U. S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3).

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

Tributary waters and their impoundments are under the regulatory jurisdiction of the USACE and extend to the ordinary high water (OHW) mark on opposing channel banks. The OHW mark is typically indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in character of soil, destruction of vegetation, exposed roots on the bank, deposition of leaf litter and other debris materials or lower limit of moss growth on channel banks.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must be in compliance with permit requirements of the USACE. No USACE permit will be approved in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. State Water Resources Control Board is the state agency charged with implementing water quality certification in California.

Survey Results. No Waters of the U.S. were observed within the project boundary. Jurisdictional areas within the low flow channel of Guadalupe Creek occur adjacent to the site, but, do not fall within the project boundary (Figure 3). The presence of scattered hydrophytes and limited mesic-soil conditions in portions of the ruderal area of the site do not warrant investigation as potential wetlands due to their highly ephemeral nature.


Legend
▬ Project Boundary
┅ Boundary of California Department of Fish and Game (CDFG) Jurisdiction
▨ CDFG Jurisdiction To Be Impacted
▦ Ordinance-Sized Trees To Be Removed (Three California walnut trees)
⬡ Ordinance-Sized Trees
Guadalupe Creek
Approximate Southern Boundary of U.S. Army Corps of Engineers Jurisdiction
Terminal Infiltration Pool
GUADALUPE CREEK OUTFALL SEE DETAIL
INFILTRATION POOLS SEE DETAIL
EMERGENCY SPILLWAY SEE DETAIL
OUTLET CHANNEL SEE DETAIL
STRUCTURE
INLET POOLS SEE DETAIL
INLET WORKS SEE DETAIL
INLET PIPE SEE DETAIL
CONNECTION TO AVP SEE DETAIL
PG&E Easement
SCVWD PIPELINE EASEMENT 8174-OR-720 ALMADEN VALLEY PIPELINE
Coleman Road
Oak Canyon Place
Los Capitancillos Drive
237
238
239
240
240.5
241
241.5
242
243
245
246
247
248
249
250
N
0
100
200
Feet
Scale: 1" = 100'

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Los Capitancillos Wetland Mitigation Project
Draft EIR: Regulated Habitats

File No. 1700-01	Date 1/15/02	Figure 3

California Department of Fish and Game Jurisdiction

Regulatory Overview. The site was also examined for those areas that are under the regulatory jurisdiction of the CDFG. This jurisdiction generally extends to the "hinge points" on the top-of-bank of opposing channel banks and/or the full lateral extent of riparian vegetation beyond the top-of-bank. Definitions used in the identification of CDFG jurisdiction are contained in various documents including the Fish and Game Code, Title 14 of the California Code of Regulations (Hernandez 1999), and *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code* (1994). These areas generally include rivers, streams, creeks, or lakes. In addition, canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

Survey Results. The bed and bank of Guadalupe Creek within the northeastern project boundary are subject to the regulatory jurisdiction of the CDFG. Only 0.03 acres of ruderal habitat occurs within this jurisdiction (Figure 3). This ruderal area was formerly occupied by riparian canopy and understory which had already been removed prior to the reconnaissance-level survey, resulting in succession of ruderal habitat as described above.

Ordinance-Size and Heritage Trees

Regulatory Overview. The City of San Jose Tree Ordinance (San Jose City Code, sections 13.31.010 to 13.32.100) serves to protect all trees having a trunk measuring 56 inches or more in circumference (18 inches in diameter) at the height of 24 inches above the natural grade of slope. The ordinance protects both native and non-native species. A tree removal permit is required from the City of San Jose for the removal of ordinance-sized trees. In addition, any tree found by the city council to have special significance can be designated as a heritage tree, regardless of tree size or species. It is unlawful to vandalize, mutilate, remove, or destroy such heritage trees. The City of San Jose requires that all trees on the site be inventoried and categorized according to size, species, and location, prior to the issuance of any approval, or permit for construction of any improvement of the building site.

Survey Results. Four ordinance-sized trees, including 3 Northern California black walnut trees (22, 35, and 36 inches in diameter) and 1 valley oak (32 inches in diameter), occur on site (Figure 3).

SPECIAL STATUS PLANT AND WILDLIFE SPECIES

Special-Status Species Regulations Overview

Federal and state endangered species legislation gives several plant and animal species known to occur in the vicinity of the site special status. In addition, state resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified as sensitive some species occurring in the vicinity of the site. Such species are referred to collectively as "species of special status."

Provisions of the Federal Endangered Species Act (FESA) protect federally-listed threatened and endangered species and their habitats from unlawful take. "Take" under FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The USFWS's regulations define harm to include some types of "significant habitat modification or degradation." The U.S. Supreme Court ruled on June 29, 1995, that "harm" may include habitat modification "... where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species September 19, 1997 (USFWS 1997; 50 CFR Part 17). The USFWS discontinued the designation of Category 2 and Category 3 species in 1996 (USFWS 1996). Candidate species are now species regarded by USFWS as candidates for addition to the "List of Endangered and Threatened Wildlife and Plants." Candidate species are not afforded any legal protection under FESA. However, candidate species typically receive special attention from federal and state agencies during the environmental review process.

Provisions of California's Endangered Species Act (CESA) protect state-listed threatened and endangered species. CDFG regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFG, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification ..."

The CDFG has also produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists either are of limited distribution and/or the extent of their habitats has been substantially reduced, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review, but do not have statutory (legal) protection.

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS 2001), but which have no designated status under state endangered species legislation, are defined as follows:

- List 1B. Plants rare, threatened, or endangered in California and elsewhere.
- List 2. Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3. Plants about which we need more information - A review list.
- List 4. Plants of limited distribution - A watch list.

Special-Status Plant Species

A total of 30 special-status plant species were identified in the CNDDB and California Native Plant Society Inventory queries of which only 1, Gairdners yampah (*Perideridea gairdneri* ssp. *gairdneri*) could potentially occur on the site (Table 1). This species is presumed absent from the site since it was not detected during recent surveys coinciding with its blooming period. In addition, the Northern California black walnut tree species found on site is considered by the California Native Plant Society to be a special-status tree species with only three native stands known to occur. However, this species is now widely naturalized in California due primarily to agricultural activities and was not known to occur naturally in Santa Clara County. The walnut trees on site appear to be remnants of a former walnut orchard and are not part of the three known native stands. Therefore, they are not considered sensitive in this assessment. Finally, the only sensitive habitat identified in the CNDDB query was serpentine bunchgrass habitat, which is absent from the site.

The remaining 29 species were dismissed as potentially occurring on site for one or more of the following reasons; the regular disturbance (disking) on the site, absence of suitable microhabitats (mostly serpentine substrates), extirpation from Santa Clara County, the most recent occurrences are historic, or they are considered extinct (Appendix C). No further surveys are warranted for these species.

Special-Status Animal Species

The special-status animal species that occur on and in the vicinity of the site are described below. Table 1 presents the list of special-status wildlife species and provides an overview of the potential for these species to occur on the project site.

Thirty-seven special-status animal species were identified in the CNDDB query, during field surveys, or from a database of Santa Clara County bird records. These species include: the Bay checkerspot butterfly (*Euphydryas editha bayensis*), steelhead – Central California Coast ESU (*Oncorhynchus mykiss*), Chinook salmon-Central Valley fall-run ESU (*Oncorhynchus tshawytscha*), California tiger salamander (*Ambystoma tigrinum californiense*), California red-legged frog (*Rana auroura draytonii*), foothill yellow-legged frog (*Rana boylii*), western pond turtle (*Clemmys marmorata*), American White Pelican (*Pelecanus erythrorhynchos*), Brown Pelican (*Pelecanus occidentalis*), Double-crested Cormorant (*Phalacrocorax auritus*), Aleutian Canada Goose (*Branta canadensis leucopareia*), Osprey (*Pandion haliaetus*), Northern Harrier (*Circus cyaneus*), White-tailed Kite (*Elanus leucurus*), Sharp-shinned Hawk (*Accipiter striatus*), Cooper's Hawk (*Accipiter cooperii*), Golden Eagle (*Aquila chrysaetos*), Merlin (*Falco columbarius*), American Peregrine Falcon (*Falco peregrinus anatum*), California Gull (*Larus californicus*), Burrowing Owl (*Athene cunicularia*), Black Swift (*Cypseloides niger*), Vaux's Swift (*Chaetura vauxi*), Willow Flycatcher (*Empidonax traillii*), Loggerhead Shrike (*Lanius ludovicianus*), Bank Swallow (*Riparia riparia*), California Yellow Warbler (*Dendroica petechia brewsteri*), Salt marsh Common Yellowthroat (*Geothlypis trichas sinuosa*), Yellow-breasted Chat (*Icteria virens*), Tricolored Blackbird (*Agelaius tricolor*), Pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*), and the San Francisco dusky-footed wood rat (*Neotoma fuscipes annecteus*).

Several of these species were eliminated from further consideration because the site is outside the known distribution, or there is lack of suitable habitat for the species on the project site. These species are: California tiger salamander, California red-legged frog, foothill yellow-legged frog, Aleutian Canada Goose (rare in Santa Clara County, winter and migration only), and Bay checkerspot butterfly.

Special status has been conferred to some avian species to cover breeding sites only. Although a number of these species occur in the area, none of them currently breed on the site. These

Table 1. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
Federal or State Endangered or Threatened Species			
Steelhead rainbow trout Central California Coast ESU *(Oncorhynchus mykiss)*	FT	Cool streams with suitable spawning habitat and conditions allowing migration.	Known to be present in Guadalupe Creek adjacent to the site. No habitat exists on the site. Therefore, not present on the site.
California red-legged frog (*Rana aurora draytonii*)	FT, CSSC	Streams, freshwater pools and ponds with overhanging vegetation.	Marginal habitat adjacent to site in Guadalupe Creek. No adequate habitat on the site. No recent records from vicinity of the site; presumed absent.
American Peregrine Falcon *(Falco peregrinus anatum)*	SE, SP FE Delisted	Forages in many habitats; nests in cliffs, buildings, and bridges.	Observed adjacent to the site; occasional forager. No suitable breeding habitat on site.
Willow Flycatcher *(Empidonax traillii)*	SE FE *(extimus)*	Breeds in riparian habitats in mountains and southern deserts.	Uncommon migrant; those occurring on site are probably not of the listed races.
Federal or State Proposed Endangered or Threatened Species or Candidate Species			
Chinook salmon Central Valley fall-run ESU *(Oncorhynchus tshawytscha)*	FC, CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs	Not known to spawn in the South S.F. Bay historically, but could be present in Guadalupe Creek adjacent to the site. No habitat exists on the site. Therefore, not present on the site.
California Species of Special Concern			
Western pond turtle *(Clemmys marmorata)*	CSSC	Permanent or nearly permanent water in a variety of habitats.	Marginal habitat adjacent to the site. May use Guadalupe Creek as a dispersal corridor. No adequate habitat exists on the site. No recent records from vicinity of site; presumed absent
Double-crested Cormorant (*Phalachorcorax auritus*)	CSSC (rookery)	Colonial nester on coastal cliffs, offshore islands, electrical transmission towers, salt evaporator pond levees, and along interior lake margins. Feeds on fish.	Nearby resident; forages in Guadalupe Creek and Los Capitancillos Percolation Ponds. Nests within the County at Alviso salt evaporator ponds. No breeding associate with the project site.
Cooper's Hawk *(Accipiter cooperii)*	CSSC (nesting)	Nests in woodlands, forages in many habitats in winter and migration.	Observed on site primarily as a migrant and winter resident. Potentially suitable nesting habitat exists on site.
Sharp-shinned Hawk *(Accipiter striatus)*	CSSC (nesting)	Nests in woodlands, forages in many habitats in winter and migration.	Observed on site as a migrant and winter resident. No breeding records from the vicinity of the site.
Golden Eagle *(Aquila chrysaetos)*	CSSC (nesting and wintering)	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	Observed adjacent to the site as an occasional forager, primarily during the nonbreeding season. No nesting habitat on site.
Northern Harrier *(Circus cyaneus)*	CSSC (nesting)	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	Marginal foraging habitat exists on and adjacent to the site. Breeding not known to occur here.

Table 1. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
Osprey *(Pandion haliaetus)*	CSSC (nesting)	Nests in tall trees or cliffs on fresh water lakes and rivers and along seacoast; feeds on fish.	Migrant and winter resident. Observed adjacent to the site. No breeding records from the vicinity of the site.
Merlin *(Falco columbarius)*	CSSC (wintering)	Uses many habitats in winter and migration.	Observed adjacent to the site during migration and winter. Does not nest in California.
California Gull (*Larus californicus*)	CSSC (nesting colony)	Nests on lakes inland and, around San Francisco Bay in salt ponds.	Common visitor in project area, but primarily only flies over the site. No nesting habitat on site.
Burrowing Owl *(Athene cunicularia)*	CSSC (burrow sites)	Flat grasslands and ruderal habitats.	Not observed on the site. No known records on the site. No potential nesting habitat on site. Potential foraging habitat exists on site.
Vaux’s Swift *(Chaetura vauxi)*	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	Observed on site regularly during migration, occasionally in large numbers a few forage on and near the site during the breeding season. Closest breeding colony is Los Gatos, CA.
Loggerhead Shrike *(Lanius ludovicianus)*	CSSC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	Observed on the site, potentially suitable nesting habitat exists on site.
California Yellow Warbler *(Dendroica petechia brewsteri)*	CSSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Common migrant in the area but sub-specific status unknown. Not known to breed at the site.
Saltmarsh Common Yellowthroat *(Geothlypis trichas sinuosa)*	CSSC	Breeds primarily in fresh and brackish marshes in tall grass, cattail, bulrush, and willows.	Breeds in cattail and bulrush in Los Capitancillos Percolation Ponds. May forage at the site. The subspecies at this location not yet determined. Upper limits of Saltmarsh Common Yellowthroat distribution along Santa Clara Valley rivers yet to be accurately determined.
Yellow-breasted Chat *(Icteria virens)*	CSSC (nesting)	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	No breeding habitat on site. Species is uncommon and very local in county. Presumed absent.
Tricolored Blackbird *(Agelaius tricolor)*	CSSC (nesting colony)	Breeds near fresh water in dense emergent vegetation.	Observed adjacent to site, primarily as a forager during winter. May breed in cattail and bulrush in Los Capitancillos Percolation Ponds.
Townsend’s big-eared bat *(Plecotus townsendii)*	CSSC	Roosts in caves and mine tunnels in a variety of habitats.	Unlikely forager; no roosting habitat on site.
Pallid bat *(Antrozous pallidus)*	CSSC	Forages over many habitats; roosts in buildings, rocky outcrops and rocky crevices in mines and caves.	Potential forager above open grassland; no roosting habitat.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Found in a variety of woodland and brushland habitats in association with hardwoods.	Suitable habitat exists in dense mixed riparian habitat adjacent to the site. No suitable breeding habitat on the site.

Table 1. Special status plant and animal species, their status, and potential occurrence on the Los Capitancillos site, San Jose, California.

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE
State Protected Species or CNPS Species			
Gairdner's yampah *(Perideridea gairdneri ssp. gairdneri)*	CNPS 1B	Moist soil of flats, meadows, stream sides, grasslands and pine forests, throughout much of California.	The site is within the known range of this species, and suitable habitat is present on site. However, no reports exist for this special-status species in the CNDDB quadrangle search area. This species has been presumed absent based on no findings during recent surveys in the June to October blooming period.
White-tailed Kite *(Elanus leucurus)*	SP (nesting)	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	Observed adjacent to site; potential breeding on and adjacent to the site.

SPECIAL STATUS SPECIES CODE DESIGNATIONS

FE = Federally listed Endangered
FT = Federally listed Threatened
SE = State listed Endangered
ST = State listed Threatened
FC = Federal Candidate. Sufficient biological information to support a proposal to list the species as Endangered or Threatened
CSSC = California Species of Special Concern
SP = State Protected Species
CNPS 1B = Plants rare, threatened, or endangered in California and elsewhere.

species include: American White Pelican, California Brown Pelican (very rare away from the coast and coastal bays), Double-crested Cormorant, White-faced Ibis (rare in Santa Clara County), Cooper's and Sharp-shinned hawks, Northern Harrier, White-tailed Kite, Osprey, California Gull, Vaux's Swift, and California Yellow Warbler. However, potentially suitable breeding habitat for the Cooper's Hawk and the White-tailed Kite exists on the site.

Several species occur very locally or as rare transients in Santa Clara County, and the occurrence of these species on or near the site would be highly incidental. These species include the Black Swift, Bank Swallow and Yellow-breasted Chat. Although Willow Flycatchers may occur on, or near, the site rarely in migration, these individuals are highly unlikely to be representatives of the listed races, but rather represent more northerly breeding taxa that comprise relatively common migrants in portions of California. Several other species may occur on or near the site during migration or dispersal, but such occurrence would be incidental. These species include the Peregrine Falcon, Merlin, and Golden Eagle. Common Yellowthroats and Tricolored Blackbirds occur at the nearby Los Capitancillos Percolation Ponds and may very occasionally forage on the project site. The subspecific identity of the yellowthroats breeding in the vicinity of the site has yet to be determined, but these birds may represent the "Salt marsh" taxon of special concern. Pallid and Townsend's western big-eared bat may forage above the site, but no suitable roosting or breeding habitat occurs on the site.

Several species are found in, or could be occasional visitors to, the aquatic and riparian habitats associated with Guadalupe Creek adjacent to the site, but are not expected to occur at the site. Steelhead (Central California coast ESU) and Chinook salmon (Central Valley Fall-run ESU) occur in the Guadalupe Creek adjacent to the site, but no habitat exists on the site and the project is not expected to impact the creek habitat. The San Francisco dusky-footed woodrat may forage in, and make stick nests in, the dense underbrush of the mixed riparian habitat adjacent to the site.

Several special-status species may occur on the site more regularly, may breed on the site, or the resource agencies may have expressed particular concern for them. The Cooper's Hawk and White-tailed Kite may forage and nest in trees within 250 ft of the site. Loggerhead Shrike may forage and nest at the site. Potential foraging and breeding habitat exists at the site for Burrowing Owl, but there are no records of them occurring here.

Expanded species descriptions are provided below for those species for which potentially suitable breeding habitat occurs on the site. In addition, expanded descriptions are also provided for those special-status species that are not expected to occur on the site but, occur adjacent to the site on Guadalupe Creek or in the upper Guadalupe Creek watershed and for which the agencies have expressed particular concern.

Steelhead Rainbow Trout Central California Coast ESU (*Oncorhynchus mykiss*) Federal listing status: Threatened; State listing status: none. The steelhead rainbow trout is an anadromous form of rainbow trout (*i.e.*, it migrates upstream from the ocean/bay to spawn). Young steelhead typically remain in freshwater streams one to two years before migrating to the ocean. They grow rapidly for one to two years in the ocean before returning to freshwater streams to spawn. Steelhead do not necessarily die after spawning as salmon do, and may survive to spawn two or three seasons. Steelhead are generally found in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover, but are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat for these trout. Juvenile and adult steelhead usually cannot survive in pools or streams with water temperatures above 70°F. Developing embryos do not survive in water temperatures above 58°F.

Steelhead rainbow trout occur in streams in the South San Francisco Bay area and this species could potentially spawn in virtually any reach of a stream offering suitable spawning habitat and lacking downstream barriers to dispersal. Information on the fine-scale distribution of steelhead rainbow trout in South San Francisco Bay streams is limited. This species is known to be present in Guadalupe Creek adjacent to the site, but is not expected to occur on the site because the entire site is above the 10-year floodplain. In addition, the vast majority of the site is above the 100-year floodplain.

California red-legged frog (*Rana aurora draytonii*). Federal Status: Threatened; State Status: Species of Special Concern and State Protected Species. The California red-legged frog one of two subspecies of the red-legged frog (*Rana aurora*) (USFWS 2000). The *draytonii* subspecies was included as a Category 1 candidate species in the U.S. Fish and Wildlife Service's Annual Notice of Review in November 21, 1991 (USFWS 1991). On June 24, 1996, the California red-legged frog was officially listed as a Threatened species under the auspices of the FESA (USFWS 1996) based largely on a significant range reduction and continued threats to surviving populations (Miller 1994). Factors related to declines in populations of red-legged frogs include the degradation or loss of habitat attributed to agricultural practices, introduced plants and animals, livestock grazing, mining, water diversions and impoundments, water quality, recreation activities, timber harvesting, and urbanization (USFWS 2000).

This species is not expected to occur at the site. SCVWD biologists recently surveyed this section of Guadalupe Creek for California red-legged frogs and none were detected. Red-legged frogs were historically recorded 1.2 miles from the site "0.5 mi east of the intersection of Via de Adria[n]na [sic] and Via de Los Grande" (<1980), on 22 April 1977 at Guadalupe Creek "Hicks Road, ca. 1.5 miles below Guadalupe Reservoir Dam" (~1.6 miles from the site), and on 15 September 1973 "at dam of Guadalupe Reservoir" (~3 miles from the site). The latter two sightings are from populations that are considered extant (H.T. Harvey & Associates 1997). On the rare occasion of a high flood event, it is possible for an individual to be washed downstream from these populations into Guadalupe Creek adjacent to the site. However, because of a lack of riparian vegetation on site, such an individual is not expected to disperse and forage onto the site from the creek, especially during construction when the site is dry. Therefore, the project is not expected to negatively affect this species.

American Peregrine Falcon (*Falco peregrinus anatum*). Federal Status: Delisted, Migratory Nongame Birds of Management Concern (MNBMC); State Status: Endangered, Fully Protected Species. The Peregrine Falcon occurs throughout much of the world, and is known as one of the fastest flying birds of prey. They prey almost entirely on birds, which they kill while in flight. These falcons nest on ledges and caves on steep cliffs. In California, they are known to nest along the entire coastline, the northern Coast and Cascade Ranges and the Sierra Nevada. During winter and periods of migrations they can be found throughout the state. Peregrine

Falcons are most likely to be encountered in coastal or inland marsh habitats where waterfowl and shorebirds concentrate.

A severe decline in populations of the widespread North American subspecies *F. p. anatum* began in the late 1940's. This decline was attributed the accumulation of DDE, a metabolite of the organochlorine pesticide DDT, in aquatic food chains (Thelander 1994). When concentrated in the bodies of predatory birds such as the Peregrine Falcon, Bald Eagle, Brown Pelican, and Osprey it led to reproductive effects such as the thinning of eggshells.

The American Peregrine Falcon was listed as Endangered by the USFWS in 1970 and by the State of California in 1971. Recovery efforts also included the banning of DDT in North America and captive breeding programs. These efforts led the USFWS to remove the American Peregrine Falcon from the Endangered species list in 1999, though the State of California has yet to do so.

Peregrine Falcons are present in low numbers in the Santa Clara Valley, and are most abundant adjacent to San Francisco Bay. Individuals are occasionally observed near the site. They are not expected to occur at the site more than incidentally and no suitable nesting habitat exists on the site. Therefore, the project is not expected to negatively affect the American Peregrine Falcons.

Willow Flycatcher (*Empidonax traillii*) Federal Status: None; State Status: Endangered. Little Willow Flycatcher (*Empidonax traillii brewsteri*) Federal Status: None; State Status: Endangered. Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Federal Status: Endangered; State Status: None. Willow Flycatchers were once found breeding in riparian habitats throughout much of California. Their breeding populations, however, declined precipitously due to the effects of riparian habitat loss and brood parasitism by the Brown-Headed Cowbird (*Molothrus ater*). The state's current breeding populations of Southwestern Willow Flycatcher (*E. t. extimus*) are found only in high-quality riparian habitats in arid regions of southern California. Other races of willow flycatcher are common to uncommon migrants throughout most of the state, occurring in late spring and early summer on their northward migration and again in fall on the southward migration.

Willow Flycatchers probably occur in small numbers within riparian habitats on the site during migration, but these are not likely to be Southwestern Willow Flycatchers. The low population sizes of the listed race (*extimus*) and the distance between known breeding populations and the site make it improbable that a vagrant would occur on the site. Therefore, the project is not expected to negatively affect the Willow Flycatcher.

Chinook salmon Central Valley Fall-run ESU (*Oncorhynchus tshawytscha*) Federal Status: Candidate Species; State Status: Species of Special Concern. The chinook salmon is an anadromous species. Adults migrate from the ocean to spawning streams from late August through October and begin spawning in beds of coarse river gravels between October and December. Adults die after spawning. After the eggs hatch, some juvenile salmon migrate downstream to the bay or ocean within a few months, while others may remain in freshwater rearing areas for up to a year. Younger fish remain in the ocean for several years before returning to freshwater streams and rivers to spawn. Like steelhead rainbow trout, chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55° F. Compared to steelhead, chinook salmon are more likely to spawn in coarse gravels. Because long-term population trends were generally stable, the NMFS determined that the Central Valley fall- and late fall-run ESU was not a priority for listing as threatened or endangered. Rather, this ESU was determined to be a candidate for federal listing in September 1999.

Chinook salmon have not historically spawned in streams flowing into South San Francisco Bay. Since the mid-1980s, however, small numbers of fall-run chinook salmon have been found in several such streams, including Coyote Creek, Los Gatos Creek, and the Guadalupe River (Smith 1998). These fish are probably strays from Central Valley runs. Although most information produced by the NMFS concerning chinook salmon does not address the salmon present in South San Francisco Bay streams, NMFS considers these salmon to be part of the Central Valley fall- and late fall-run ESU (Laura Hamilton, pers. comm.).

Although not known to spawn in the South S.F. Bay historically, small numbers of Central Valley fall-run chinook salmon are present in Guadalupe River, downstream of the site. No Chinook Salmon have been observed in Guadalupe Creek, but downstream barriers have recently been modified to allow fish passage and they could enter Guadalupe Creek, adjacent to the project site, under ideal conditions. However, this species is not expected to occur at the site because the entire site is outside of the 10-year floodplain and the vast majority of the site is outside the 100-year floodplain.

Western Pond Turtle (*Clemmys marmorata*). Federal Status: None; State Status: Species of Special Concern. The western pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sacramento-San Joaquin Delta, and south to northern Baja, except in desert areas. The pond turtle is normally found in and along riparian areas, although gravid females have been reported up to a mile away from water in search of appropriate nest sites. The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

SCVWD biologists recently surveyed this section of Guadalupe Creek for California red-legged frogs. No western pond turtles were observed during these surveys. There are records for this species within three miles of the site (H. T. Harvey & Associates 1997). It is possible for an individual to reach Guadalupe Creek adjacent to the site on rare occasion, however, such an individual is expected to use the creek as a dispersal corridor and not expected to disperse and forage onto the site from the creek. Therefore, the project is not expected to negatively affect the western pond turtle.

Cooper's Hawk (*Accipiter cooperii*). Federal listing status: None; State listing status; Species of Special Concern. The Cooper's Hawk preys upon medium-sized birds (e.g., jays, doves, and quail) and occasionally takes small mammals and reptiles. Cooper's Hawks prefer landscapes where wooded areas occur in patches and groves that facilitate ambush-hunting tactics employed by this species. Breeding pairs in California prefer nest sites within dense stands of live oak woodland or riparian areas and prey heavily on young birds during the nesting season. Cooper's Hawks are common in the vicinity of the site and may perch and forage in the mixed riparian habitats on the site. This species might breed in larger trees within oak woodland or riparian areas on or within 250 feet of the site.

Burrowing Owl (*Athene cunicularia*). Federal listing status: None; State listing status: Species of Special Concern. The Burrowing Owl is a small, terrestrial owl of open country. Burrowing Owls favor flat, open grassland or gentle slopes and sparse shrubland ecosystems. These owls prefer annual and perennial grasslands, typically with sparse, or nonexistent, tree or shrub canopies. In California, Burrowing Owls are found in close association with California ground squirrels. Owls use ground squirrel burrows for shelter and nesting. Ground squirrels provide nesting and refuge burrows, and maintain short vegetation height, which provides foraging habitat and visual protection from avian predators. In the absence of ground squirrel populations, habitats soon become unsuitable for occupancy by owls. The nesting season, as recognized by the California Department of Fish and Game, runs from February 1 through August 31. No Burrowing Owls were found on the site during our reconnaissance-level surveys, ground squirrel burrows were not present, and we know of no records of Burrowing Owls at this site. Therefore, the site does not constitute potential Burrowing Owl nesting habitat. However, the site is currently flat, ruderal grassland that is considered appropriate foraging habitat for the Burrowing Owl.

Loggerhead Shrike (*Lanius ludovicianus*). Federal listing status: None; State listing status; Species of Special Concern. This predatory songbird prefers open habitats interspersed with shrubs, trees, poles, fences or other perches from which they can hunt. Some populations of the Loggerhead Shrike, primarily those in eastern North America, have declined significantly over the last 20 years. Other populations, including those in western North America, appear to be decreasing as well. Even with this trend, Loggerhead Shrikes are still considered a fairly common species in California. Loggerhead Shrikes occur on the site and could nest on the site.

White-tailed Kite (*Elanus leucurus*). Federal Status: None; State Status: Fully Protected Species. This species prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense broad-leafed deciduous tress in partially cleared or cultivated fields, grassy foothills, marsh, riparian, woodland, and savannah. Kites prey primarily on small rodents (especially the California vole), but also feed on birds, insects, reptiles, and amphibians. Once considered Endangered, the White-tailed Kite is now fairly common. This species, an increasingly common bird in the South Bay, has been observed on and near the site and could potentially breed in larger trees at or within 250 feet of the site.

San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*). Federal Status: None; State Status: Fully Protected Species. This species prefers hardwood forests and brushlands and often forages above ground. Food includes berries, fungi, leaves, flowers, and nuts. Within the local areas they are frequently observed in riparian areas and in brushy areas adjacent to woodlands. Nests are large mounds of sticks placed in dense tangles on or near the ground and within trees. Active nests of the San Francisco dusky-footed woodrat could occur in the dense riparian habitat along Guadalupe Creek adjacent to the site. However, no riparian habitat exists within the project boundaries. Therefore, project activities are not expected to negatively affect the San Francisco dusky-footed woodrat.

BIOTIC RESOURCE IMPACTS AND MITIGATIONS

IMPACT ASSESSMENT METHODS AND SIGNIFICANCE CRITERIA

Development of the project area as proposed will ultimately result in conversion of most of the site's ruderal habitat to freshwater wetlands and mixed riparian habitat. These proposed uses would have a number of impacts on the area's biological resources, which may constitute significant adverse effects. The California Environmental Quality Act (CEQA) and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- "substantially reduce the habitat of a fish or wildlife species"
- "cause a fish or wildlife population to drop below self-sustaining levels"
- "threaten to eliminate a plant or animal community"
- "reduce the number or restrict the range of a rare or endangered plant or animal"

In addition to the significance criteria discussed above, removal or disturbance of nesting raptors, as discussed in Fish and Game Code section 3503.5, will be considered significant. Finally, in addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
- "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
- "have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act"
- "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites"
- "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"

- "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan."

This section describes the assumptions and thresholds of significance developed to evaluate impacts on the biological resources of the site that would result from creating a seasonal freshwater wetland at the Los Capitancillos site. Two general assumptions need to be identified to understand the thresholds of significance for impacts to the site's biotic resources. These assumptions are as follows:

1. Direct impacts to wildlife species are assumed to be correlated with the loss of plant communities that provide their primary habitat. These losses would result from site excavation, road building, grading, filling or other damage to habitats, and direct wildlife loss or disturbance by construction activities and human uses. The conversion of these communities may result in the loss of or reduction of use for some wildlife species. The existing wildlife species are usually eliminated or replaced with a suite of species that are adapted to these new habtiats.

2. Indirect impacts to wildlife could also occur. If remaining fragments of undeveloped habitat are isolated from larger areas of contiguous habitat, the remaining habitats are expected to have lower biological values than those prevailing before development. Indirect impacts to wildlife can occur off site, caused by development of the site but causing affects elsewhere.

IMPACTS FOUND TO BE LESS-THAN-SIGNIFICANT

Loss of Ruderal Habitat

Much of the ruderal habitat within the proposed mitigation site will be permanently displaced by the mosaic of target habitats (open-water, wetland, riparian) comprising the preferred project alternative. Other ruderal areas such as along the PG&E tower line easement may only be used temporarily for staging activities. Ruderal habitat is common regionally and the plant and animal species that utilize this habitat type are generally abundant. Therefore, the loss of ruderal habitat is a less-than-significant impact.

Loss of Habitat for Special-Status Plant Species

All of the special-status plants considered in this assessment were rejected as potentially occurring on site due to the absence of specific microhabitat requirements (i.e. serpentine environments) or due to negative survey results. In addition, only the ruderal habitat on site is expected to be impacted. Ruderal habitat is abundant throughout the region, and the loss of this habitat for special-status plants is therefore less-than-significant.

Potential Impacts to Burrowing Owls During Construction

No Burrowing Owls were found during our surveys, ground squirrel burrows are not currently present on site, and we know of no records of Burrowing Owl at this site. Therefore, under the present condition wetland construction would not result in significant impacts to the Burrowing Owl.

It is possible that Burrowing Owls could relocate from other areas to the project site if ground squirrels colonize the site prior to the start of wetland construction. If this were to occur, the project could result in unlawful take of Burrowing Owls or their nests. Therefore, preconstruction surveys should be conducted within 30 days of any soil disturbance (grading).

Impacts to Steelhead (Central California Coast ESU) and Chinook Salmon (Central Valley fall-run ESU)

Steelhead (Central California Coast ESU) are known to occur and Chinook salmon (Central Valley fall-run ESU) are presumed to occur in Guadalupe Creek adjacent to the site. However, these salmonids do not occur at the site because the entire site is outside of the 10-year floodplain and the vast majority of the site is outside the 100-year floodplain. Nonetheless, we assessed the potential for the project to impact steelhead and Chinook salmon by stranding of fish on site, temporary water quality impacts during construction, and by thermal impacts to Guadalupe Creek.

Potential for Stranding Impacts. This project is not expected to increase the possibility of stranding fish outside of Guadalupe Creek during flood events. As a result of grading completed for the Guadalupe Creek project, the ground elevation between the wetland site and Guadalupe Creek is now 1 foot higher than the estimated Guadalupe Creek 100-year water surface elevation. Thus, the wetland mitigation pond is isolated from the 100-year floodplain of Guadalupe Creek. In addition, the first two outfall infiltration pools are outside of the 50-year floodplain and the small terminal infiltration pool is outside the 10-year floodplain. Therefore, the wetland mitigation pond and infiltration pools are not expected to strand salmonids.

Potential Degradation of Creek Water Quality During Construction. Best management practices will be employed to minimize temporary water quality impacts to salmonid habitat via erosion and transport of sediments from the newly graded site to Guadalupe Creek. The project incorporates temporary erosion control measures including silt fencing, hydroseeding, and pneumatically applied mulch to minimize the transport of sediments from grading operations into Guadalupe Creek. In addition, grading of the terminal infiltration pool within CDFG jurisdictional habitat will occur during the dry season between April 15 and October 15.

Potential Thermal Impacts During Operation of the Wetland. A thermal analysis of the potential impact of wetland mitigation site operation on Guadalupe Creek temperatures was conducted (Philip Williams & Associates 2002). The potential for thermal impacts during high creek flows (primarily December – March) was discounted, as direct outflows from the wetland to the creek will be very rare and extremely small compared to the high creek flow conditions that would exist during such storm events. In addition, creek and wetland temperatures will both be relatively low during storm events, further reducing the potential for any thermal impact from the wetland under these conditions. The annual drawdown, designed to occur in September each year, will be accomplished by evaporation and percolation. There would not be surface water discharge from the wetland to the creek during the annual drawdown. Thus, the thermal analysis focused on the potential for percolated water from the wetland to flow to the underlying groundwater reservoir and from there flow to the creek as subsurface flow.

The following threshold of significance was utilized to assess the significance of predicted increases in Guadalupe Creek temperature:

> Operation of the wetland would be considered to have a significant thermal impact on salmonids (steelhead and Chinook salmon) if the wetland seepage to the creek would increase existing Guadalupe Creek temperatures to lethal/unacceptable levels for the life stages of salmonids likely present in the creek during the season of anticipated thermal effects.

The thermal analysis employed the computer model SNTEMP and was used to determine the effect of the September annual drawdown on Guadalupe Creek temperature adjacent to the site. The analysis employed a conservative approach in assumptions regarding estimated wetland water temperature, percentage of percolated water reaching the creek, and loss of heat due to dispersion and conduction in the groundwater. Thus, the model predictions estimate a maximum potential change in September creek temperatures. Average Guadalupe Creek temperatures recorded in September from 1996-2000 represent the existing condition for the purpose of this analysis and ranged from 55.4-65.7 degrees F. The thermal analysis predicted an increase in September creek temperatures from 55.4 – 65.7 degrees F, to a modestly increased temperature range of 55.9 – 65.8 degrees F. The existing temperature range falls within the Optimal to Suboptimal range for the life stages of salmonids present in the creek in September. The predicted increased temperature range of 55.9-65.8 degrees F would still fall well within the optimal to suboptimal range for salmonids and well below the unacceptable threshold for pre-spawning adult Chinook salmon (75 degrees F) and well below the lethal threshold for juvenile steelhead (77 degrees F) (Moyle 1976, Raleigh et al 1984 and 1986, Santa Clara Valley Water District 2000). *Consequently, the predicted temperature increase of 0.1 – 0.5 degrees F via seepage from the Los Capitancillos wetland would not substantially increase the Guadalupe Creek temperature and would have a less-than-significant impact on salmonids.*

The effect of percolation through the wetland soil cover to the creek during other months was not analyzed because the soil cover to be imported to the site has not yet been identified and its permeability is therefore unknown at this time. The final design will ensure that percolation from the wetland to the creek during all months will not significantly affect creek temperatures and salmonids. An additional thermal analysis will be conducted during the final design once a proposed soil liner material has been identified. If shown necessary by the final design thermal analysis, design elements will be incorporated into the project to avoid detrimental changes in creek water temperatures. These measures could include installation of a cut-off wall between the wetland and the creek, redesign of percolation system elements to operate at further distance from the creek, inclusion of a less permeable layer below the wetland soil cover, or even revision of the specification of the wetland soil liner properties or the wetland hydroperiod.

In light of the above analysis for stranding, water quality and thermal impacts, potential impacts to steelhead and Chinook salmon are considered less-than-significant.

Impacts to Vegetation within CDFG Jurisdiction

The proposed construction activities within the bed and banks of Guadalupe Creek (within CDFG jurisdiction) will require the removal of ruderal vegetation and regrading of slopes; there will be no modification of the low-flow channel. Approximately 600 square feet of CDFG jurisdiction habitat will be permanently impacted by rock rip-rap placement in the spillway within the terminal infiltration pool. (Figure 3). This impact area consists entirely of ruderal herbaceous vegetation. No riparian habitat will be impacted. Environmentally sensitive area fencing and silt fencing will be erected along the project boundary in the eastern portion of the site to protect riparian habitat adjacent to the areas of proposed grading. The loss of 600 square feet of ruderal habitat within CDFG jurisdiction is considered a less-than-significant impact.

However, a CDFG permit (streambed alteration agreement) will be required for the proposed grading and rock placement. The CDFG permit will likely require mitigation for the 600 square feet of impact. Only low quality ruderal habitat will be impacted in CDFG jurisdiction and a corresponding replacement ratio of 1:1 (replacement:loss) will be adequate. Therefore, the CDFG jurisdictional area impacts will be mitigated by restoration of a minimum of 600 square feet of willow riparian habitat located between the terminal infiltration pool and the Guadalupe Creek low-flow channel. This area is currently ruderal habitat and is a gap in the dense willow riparian habitat along the creek channel floodplain.

IMPACTS FOUND TO BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATION

Impacts to Ordinance-Sized Trees

A total of 3 of the 4 ordinance-sized trees on site will be removed to accommodate grading of the wetland mitigation sites (Figure 3). These include the 3 Northern California black walnut trees within the upland ruderal habitat. These large, mature trees can be valuable to wildlife, providing nesting, roosting, and foraging habitat. The loss of large native trees and or other ordinance-sized trees would thus be a significant impact. Implementation of the following mitigation will reduce project related impacts to ordinance-sized trees on site to a less-than-significant level. For those trees to otherwise be avoided, grading should not be allowed beneath their canopies.

Mitigation 1. Replacement of impacted trees. Lost native trees greater than 18 inches in diameter will be replaced at a 5:1 ratio, thus requiring replacement with 15 trees. The numerous plantings proposed for the oak woodland habitat enhancement as part of the project will satisfy this mitigation requirement. Planting stock will be collected locally from within Santa Clara County. Planting should be conducted from November to January using small nursery stock. The replacement trees should be installed in an environment suitable for their establishment and growth. These trees should be irrigated and maintained for a period of not less than three years.

Potential Impacts to Nesting Raptors During Construction

American Kestrels (*Falco sparverius*) are known to breed in sycamore trees within 250 feet (the standard raptor-nest buffer zone) of the site. White-tailed Kites, Red-shouldered Hawks (*Buteo lineatus*), Red-tailed Hawks (*Buteo jamaicensis*), Western Screech Owls (*Otus kennicottii*), Great Horned Owls (*Bubo virginianus*), Cooper's Hawks and other raptors occur in general vicinity and are also known to breed in species of trees present along the Guadalupe Creek riparian corridor. Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. The federal Migratory Bird Treaty Act (16 U.S.C. § 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under California Fish and Game (CDFG) Code section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Construction activities, such as tree removal, site grading, etc., that result in direct loss of, or in disturbance that leads to loss of, a raptor nest (eggs or young), would violate state and federal law and would be considered a significant negative impact under the California Environmental Quality Act (CEQA).

Mitigation 1. Avoidance. Construction should be scheduled to avoid the nesting season to the extent possible. In the South San Francisco Bay area, most raptors breed from February through August. However, some White-tailed Kites and Red-shouldered Hawks may begin nest-building as early as January, and kites may have young in the nest through September. If construction can be scheduled to occur between October and December, the nesting season would be avoided, and no impacts to nesting raptors would be expected. If it is not possible to schedule construction between October and December, preconstruction surveys for nesting raptors should be conducted by a qualified ornithologist in order to ensure that no raptor nests will be disturbed during project implementation.

Mitigation 2. Preconstruction/Predisturbance Surveys. The preconstruction surveys should be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist would inspect all trees, electrical towers, and other potential nest sites within the limits of grading and the area within 250 feet of the limits of grading. If an active raptor nest is found within the limits of wetland construction activities, a qualified ornithologist, in consultation with CDFG, would determine the extent of a construction-free buffer zone (typically 250 feet) to establish around the nest.

Potential Impacts to Nesting Migratory Birds During Construction

The Loggerhead Shrike, a California State Species of Special Concern, occurs and may nest on the site. Additionally, numerous local bird species protected by the Federal Migratory Bird

Treaty Act are known to breed in ruderal grasslands and mixed riparian habitats such as those found at the site. The SCVWD's *Nesting Bird Guidelines* will be followed in order to avoid impacts to nesting migratory bird species (see Appendix C).

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APPENDIX A. .
PLANTS OBSERVED AT THE LOS CAPITANCILLOS WETLAND MITIGATION SITE

Appendix A. Vascular Plants Observed at theLos Capitancillos Wetland Mitigation Site.

FAMILY NAME	SCIENTIFIC NAME	COMMON NAME
Anacardiaceae	*Toxicodendron diversilobum*	poison oak
Apiaceae	*Conium maculatum*	poison hemlock
	Foeniculum vulgare	sweet fennel
Apocynaceae	*Vinca major*	Greater periwinkle
Asteraceae	*Artemisia douglasiana*	California mugwort
	Baccharis pilularis	coyote brush
	Carduus pycnocephalus	Italian thistle
	Centauria calcitrapa	Purple star thistle
	Centaurea solstitialis	yellow star thistle
	Cichorium sp.	chickory
	Lactuca sp.	wild lettuce
	Picris echioides	bristly ox-tongue
	Silybum marianum	milk thistle
	Xanthium strumarium	rough cocklebur
Brassicaceae	*Brassica nigra*	black mustard
	Raphanus sativus	wild radish
	Rorrippa nasturtium-aquatica	watercress
Caprifoliaceae	*Sambucus mexicanus*	blue elderberry
	Symphoricarpos albus	snowberry
Cyperaceae	*Cyperus sp.*	Nutsedge
Fabaceae	*Acacia sp.*	acacia
	Lupinus sp.	lupine
	Medicago polymorpha	California burclover
	Vicia sativa ssp. *sativa*	common vetch
Fagaceae	*Quercus agrifolia*	coast live oak
	Quercus douglasii	blue oak
	Quercus lobata	valley oak
Geraniaceae	*Erodium botrys*	Storkbill filaree
	Erodium cicutarium	red-leaf filaree
	Erodium moschatum	white-leaf filaree
	Geranium sp.	geranium
Hippocastanaceae	*Aesculus californica*	California buckeye
Juglandaceae	*Juglans californica*	Northern California black walnut
Lamiaceae	*Mentha sp.*	mint
Malvaceae	*Malva parviflora*	cheeseweed
	Epilobium brachycarpum	Willow herb
Plantaginaceae	*Plantago lanceolata*	English plantain
Platanaceae	*Platanus racemosa*	western sycamore
Poaceae	*Avena spp.*	wild oats
	Bromus hordeaceus	Soft chess brome
	Bromus diandrus	ripgut grass
	Lolium multiflorum	Italian ryegrass
Polygonaceae	*Rumex crispus*	curly dock

Appendix A. Vascular Plants Observed at theLos Capitancillos Wetland Mitigation Site.		
FAMILY NAME	SCIENTIFIC NAME	COMMON NAME
Rosaceae	*Rosa californica*	California wild rose
	Rubus discolor	Himalayan blackberry
Salicaceae	*Salix laevigaeta*	Red willow
	Salix lasiolepis	Arroyo willow
The species are arranged alphabetically by family name for all vascular plants encountered during the plant survey. Plants are also listed alphabetically within each family. In some cases, it was not possible to accurately identify a particular plant to the species level due to the absence of specific anatomic structures required for identification.		

APPENDIX B
SPECIAL-STATUS PLANT SPECIES CONSIDERED BUT REJECTED FOR OCCURRENCE LOS CAPITANCILLOS WETLAND MITIGATION SITE

Appendix B. Special-Status Plant Species Considered but Rejected for Occurrence on the Los Capitancillos Wetland Mitigation Site.

FAMILY NAME	SCIENTIFIC NAME	COMMON NAME
Apiaceae	*Sanicula saxatilis*	rock sanicle
Asteraceae	*Balsamorhiza macolepis var. macrolepis*	big scale balsamroot
	Cirsium fontinale var. *campylon*	Mount Hamilton thistle
	Centromadia parryi ssp. *congdonii*	Congdon’s tarplant
	Holocarpha macradenia	Santa Cruz tarplant
	Lasthenia conjugens	Conta Costa goldfields
	Lessingia hololeuca	woolly-headed lessingia
	Pentachaeta bellidiflora	white-rayed pentachaeta
Boraginaceae	*Plagiobothrys diffusus*	San Francisco popcornflower
	Plagiobothrys uncinatus	hooked popcorn flower
Brassicaceae	*Erysimum franciscanum*	San Francisco wallflower
	Streptanthus albidus ssp. *albidus*	Metcalf Canyon jewel-flower
	Streptanthus albidus ssp. *peramoenus*	most beautiful jewel-flower
	Tropidocarpum capparideum	caper-fruited tropidocarpum
Chenopodiaceae	*Atriplex cordulata*	heartscale
	Atriplex joaquiniana	San Joaquin saltbush
Crassulaceae	*Dudleya setchellii*	Santa Clara Valley dudleya
Fabaceae	*Astragalus tener* var. *tener*	Alkali milk-vetch
	Trifolium amoenum	showy Indian clover
Liliaceae	*Calochortus umbellatus*	Oakland star-tulip
	Fritillaria liliacea	fragrant fritillary
Polemoniaceae	*Linanthus ambiguus*	serpentine linanthus
	Linanthus grandiflorus	large-flowered linanthus
	Chorizanthe robusta var. *hartwegii*	Scott’s Valley spineflower
Polygonaceae	*Eriogonum luteolum* var. *caninum*	Tiburon buckwheat
	Polygonum hickmanii	Scott’s Valley polygonum
Rhamnaceae	*Ceanothus ferrisae*	coyote ceanothus
Scrophulariaceae	*Castilleja affinis* ssp. *neglecta*	Tiburon Indian paintbrush
Thymelaeaceae	*Dirca occidentalis*	western leatherwood

APPENDIX C
SANTA CLARA VALLEY WATER DISTRICT
NESTING BIRD GUIDELINES

SANTA CLARA VALLEY WATER DISTRICT
ENVIRONMENTAL RESOURCES MANAGEMENT UNIT

NESTING BIRD GUIDELINES 2000-2001
DRAFT

PURPOSE

To establish District guidelines for implementing stream stewardship policy as it relates to avian resources by describing the process and responsibilities of the District has regarding the *Migratory Bird Treaty Act of 1918* and other local, state and federal statues, ordinances and regulations, as they relate to nesting birds.

POLICY

It is the policy of the District to act as stream stewards by protecting the watersheds, streams and the natural resources therein. As part of its stream resources stewardship, the District recognizes that it has responsibilities for managing avian resources. Management of avian resources includes measures to protect birds, their nests, and eggs. This builds on the District's continuing efforts to improve stream resources and to comply with local, state and federal environmental laws.

SCOPE

This procedure provides guidelines to be followed by the District to protect birds nesting at district facilities and at District project sites. It defines the role and responsibilities of staff in planning, permitting, and implementing measures for managing avian resources. These measures facilitate the timely completion of District projects and activities while protecting avian resources.

DEFINITIONS

Project site. This includes all areas where District employees or contractors perform work. This includes, but is not limited to the area identified as the work site in project plans, access routes, staging areas, structures, and areas immediately adjacent.

Nesting areas. Birds nest in nearly all conceivable places and situations which, include open water, bare ground, stream banks, grass and weeds, cattails and bulrush, shrubs, trees, buildings, bridges, and drain pipes.

Nesting season. Nesting activity occurs in the Santa Clara Valley between February 1st to July 1st except in areas with tidal influence or emergent vegetation the season is extended to August

31. The peak of this activity is between March 15th and July 1st. Annual variation in climatic conditions can alter these periods by several weeks.

Active nest. An active nest is any nest structure, which is being used by adult birds and is at least ½ completed, contains eggs, or nestlings. Active nests also include permanent nest structures such as those made by herons, egrets, and birds of prey. Nests are considered active until young birds leave the nest and the immediate area surrounding the nest. Some birds may nest multiple times in the same nest within a season, nests of these species are considered active during nest construction, repairs or courtship behavior is observed.

Take of birds, their nests, eggs, or young. Under Migratory Bird Treaty Act, take is interpreted as the actual destruction of adult birds, their nests, eggs, or young. Penalties can include fines and imprisonment. The District will not knowingly conduct any activity that will lead to the take of live birds or active nests. District employees shall contact biologists and follow the guidelines described in *Protection of nests* (see PROCEDURES, below) when an active nest is known to be present or if one is encountered.

Biologists A qualified biologist is a person properly trained in the detection of nesting birds within the habitat type being surveyed. The biologist will have knowledge of the identification, nesting habits and behaviors of local bird species. The biologist can identify local birds and their nests by sight. They should have recent experience conducting nest searches and be familiar with district breeding bird survey protocols (see attachment b).

PROCEDURES

The District will attempt to protect avian resources through a series of steps in the course of a project. We will attempt to avoid impacts through avoidance of nesting areas and the nesting season. When this is not possible or not practical we will incorporate preventative measures in the project design. When preventive measures cannot be incorporated or there is the continued possibility of nesting birds, pre-construction surveys shall be conducted. If these measures fail and birds nest at a project site, actions shall be taken to ensure that the nest is not destroyed by district activities. If a nest is destroyed, it will be reported to appropriate agencies.

The *project site* will be considered to have an "active nest" if, the following conditions exist as determined by the biologist:

a. If the entire project site or structure can be visually inspected and a nest which is at least ½ completed is found or,
b. If the observer is unable to inspect the entire project site and "probable", or "confirmed" breeding behaviors are observed, and a second visit within one week detects "confirmed" behaviors (see ATTACHMENT C).
c. If the observer encounters Burrowing Owls displaying courtship behaviors.

Planning and Design

District biologists should be consulted early in the planning process to assess projects planned during the nesting season in and adjacent to channels, creeks, streams, reservoirs, floodplains, percolation ponds, pipelines, grasslands, roads and other outdoor facilities, for their potential impacts.

As part of the environmental review process site surveys should be conducted at the appropriate time of year by biologists. The environmental review process will identify potential impacts to avian resources and identify *preventive measures*.

The District Biologist should be informed of pre-construction meetings that pertain to activities that could impact avian resources and be informed of substantial changes made to the project work area or work involving removal of trees or brush.

Preventive measures When possible, projects with potential impacts to nesting birds should be scheduled before or after the *nesting season.* If this is not possible, *preventive measures* should be taken to reduce the possibility of nesting at the proposed work areas. Additionally, *pre-construction surveys* should be planned within 2 weeks before the initiation of work during the *nesting season.*

Preventive measures include any technique that will discourage birds from nesting at project sites or will remove potential nesting sites. This includes, but is not limited to, removal of vegetation that will be removed as part of the project prior to beginning the project and the use of deterrents to discourage birds from nesting.

District biologists and environmental planners should be consulted in the development of site and project specific preventive measures. Preventive measures will be described in environmental documents. Authorization to implement preventive measures may be needed from other agencies. In situations requiring site specific measures at the time of construction, project biologists will work with responsible field personnel to develop site specific measures. District personnel, construction contractors or a knowledgeable pest/animal control contractor should implement preventive measures.

If preventive measures are needed to prevent nesting, they should be in place and completed prior to February 1st. Responsibility for installation and removal of these measures will be described in writing by the project manager. All materials used in these efforts must be maintained to prevent nesting and removed when necessary to complete project activities. All materials will be removed from the site at the completion of the project.

Project Implementation

Pre-construction Surveys A pre-construction survey is necessary under the following conditions:

a. If work is conducted during the *nesting season.*
b. If work involves removing or trimming large trees during the *nesting season.*
c. If nesting has been recorded before or after the *nesting season* in previous years at or near the site.
d. If work involves earthmoving operations, or the removal or trimming of vegetation during the *nesting season.*

Pre-construction surveys for nests should be performed within two weeks of the project start date by a Biologist or other appropriately trained personnel designated by the biologist (contact Biologist for necessary training requirements). The Biologist will report the findings to responsible field personnel. This will include descriptions, or maps of areas where work should be avoided as well as written descriptions of all measures that should be taken in order to protect the nests.

Pre-construction surveys for nests will be conducted according to the protocols described in Attachment B.

Protection of nests. What is required for the protection of active nests may vary depending on the situation and the species involved. This will be determined by the Biologist. These are general guidelines to be followed by the workers and responsible field personnel when a active nest is encountered:

a. Contact project biologists immediately.
b. Only authorized and permitted biologists should approach or touch the adults, nest, and eggs.
c. Until inspected by a biologist, a 50-foot radius should be established around the nest, a 250-foot radius in the case of hawks, owls, heron and egrets. The biologist may modify these perimeters once the site is inspected

d. If work must be done within this 50-ft radius prior to inspection by the project biologist, it should be limited to less than one hour duration. The biologist may modify this schedule once the site is inspected
e. Responsible field personnel will inform workers of the presence of a nest and steps described above to avoid it.
f. In cases where birds build nests on a project site during project construction activities are taking place, the nest and its contents should be protected from destruction and the biologist should be contacted.
g. Project biologists, following site inspection may introduce additional measures to protect the nests. These measures must be approved by responsible field personnel.

These steps are initial steps that should be taken by the workers and responsible field personnel. The biologist may modify these steps and introduce additional measures to protect the nest if they are needed to ensure the adults and nest contents will not be destroyed.

For contracted projects, the biologists will discuss the situation only with responsible field personnel. It will be the responsible field personnel's responsibility to ensure that all guidelines are followed by District employees and contractors.

If a nest is destroyed

If a nest is destroyed, despite these measures, the nest and its contents should not be touched or moved. The biologist and project manager should be contacted immediately by responsible field staff.

ATTACHMENT A: DESIGN SPECIFICATIONS: THE FOLLOWING STATEMENTS SHOULD BE ATTACHED TO CONTRACT DESIGN SPECIFICATIONS.

No bird, their active nest, or eggs or will knowingly be harmed during the course of this project. If active nests, eggs or young are found at a project site a District biologist will be notified immediately and procedures outlined in *Protection of nests* (see NESTING BIRDS GUIDELINES 2000-2001) will be followed.

If an active nest or birds displaying behaviors indicative of nesting (see NESTING BIRDS GUIDELINES 2000-2001: ATTACHMENT C) are observed, protective measures outlined in *Protection of nests* (see NESTING BIRDS GUIDELINES 2000-2001) may be implemented to protect active nests and/or work will be delayed until the nest is complete.

A pre-construction survey should be conducted by a biologist if the project meets criteria described in *pre-construction surveys* (see NESTING BIRDS GUIDELINES 2000-2001).

District biologists shall be informed of pre-construction meeting which deal with issues pertaining to nesting birds.

If preventive measures are needed to prevent nesting, they should be in place and completed prior to February 1st. Responsibility for installation and removal of these measures will be described in writing by the project manager. All materials used in these efforts must be maintained to prevent nesting and removed when necessary to complete project activities. All materials will be removed from the site at the completion of the project.

ATTACHMENT B: BREEDING BIRD SURVEY PROTOCOL

- Sites should be checked within 4 hours of sunrise or within 2 hours of sunset. Exceptions to this are roads, gravel beds, grasslands, sites without vegetation, bridges, buildings, overpasses, and culverts.

- Surveys should not be conducted during periods of inclement weather, unusually warm or cold weather or when wind speed exceeds 12 mph.

- The surveyor should choose an observation area with a good field of view and complete Step 1. Observations should be made for a minimum of 15 minutes (for small sites with little cover), 30 minutes may be appropriate for more complex sites. The surveyor may need to do this several times depending upon the length of the site.

- After passive observation, the surveyor should walk the entire site and complete the species list.

- Once all potential breeders are identified and possible nesting sites located, the surveyor should proceed with step 2.

Step 1. General Species List

- List all species of birds found to the lowest possible taxonomic level.
- Identify and count each individual.
- Note any breeding behaviors (see *Breeding Codes*); take detailed notes.
- Describe locations of all breeding behaviors (see *Breeding Codes*).

Step 2. Search habitat using appropriate methods.

- Each habitat type is going to be different, the observer should determine what types of birds are at the site, then search appropriate locations for active nests (i.e. if Bullocks Orioles are found, inspect trees and tall shrubs for hanging nests, if Killdeer are found search gravel and dirt substrates for ground nests).

- For larger areas, the surveyor will identify likely nesting areas and searching them thoroughly. These include such areas as gravel bars, under man-made structures, trees, large shrubs, shelves on banks, cavities in banks and trees.

- For smaller sites, the observer may use a spotting scope to scan the entire potential nesting area.

- In Grasslands, the site will be searched by "rope dragging", "sticking" or "stalking." (see *Grassland Nest Survey Protocol*).

- When active nests are found, the observer will not approach the nest. They should attempt to: 1) identify what species the nest belongs to, 2) what stage is the nest at (eggs, nestlings, construction, incubating adult), and 3) map and describe the location of the nest. Additional notes such as number of eggs/nestlings and descriptions of the nestlings will be taken when possible, but the nest should not be disturbed to obtain information.

ATTACHMENT C: CRITERIA FOR DETERMINING NESTING STATUS

Possible (PO)

E

Individual(s) encountered in suitable breeding habitat within safe-date period. Be especially careful during the migration period (especially in riparian zones) not to count birds that may be passing through or birds anywhere that may linger in wintering areas.

S

Singing male encountered in suitable breeding habitat within safe-date period.

Probable (PR)

M

Multiple singing or territorial males reported within a project site within one day. (Indicate the number when you use this code: if you hear eight males singing, enter M-8 on the Field Card.)

A

Agitated behavior or anxiety calls from adult. (Do not include agitation which you induce by "pishing" or using taped calls.)

P

Pair observed in suitable breeding habitat within safe-date period. (Be aware that some species, e.g., ducks, may be paired during migration.)

T

Territorial behavior (chasing of individuals of same species) or singing male present at least two dates seven or more days apart. (Use caution for species such as raptors and hummingbirds that exhibit territorial behavior in defense of feeding areas, favorite perches, etc., while wintering or migrating.)

C

Courtship behavior (including food exchange) or copulation observed.

N

Visiting probable nest site (especially cavity nesters), with no further information obtained.

B

Nest building by Bewick's, House or Marsh wrens (which may build several nests before a female selects one), or excavation by woodpeckers (see NB below).

Confirmed (CO)

NB

Nest building, or a bird carrying nest materials (except for the above-mentioned wrens, and woodpeckers).

DD

Distraction display; defense of unobserved nest or young by injury feigning. A common behavior among ground-nesters (e.g., the Killdeer broken-wing display), and also includes active defense such as hawks diving at you. Does not include agitated behavior (Code A under PR above.)

ON

Occupied nest (nests in holes or banks, high nests, etc., where contents are uncertain). Indicated by adult entering or leaving nest site in circumstances indicating an occupied nest.

FL

Recently fledged young of species incapable of sustained flight or downy dependent young of limited mobility.

FS

Adult carrying fecal sac.

FY

Adult carrying food for young, or feeding recently fledged young. A bird feeding a fledgling cowbird confirms both the cowbird and the host.

NE

Nest with eggs, or with eggshells on ground. Use the same cautions as with code UN above. A nest with cowbird eggs confirms both the cowbird and the host.

NY

Nest with young seen or heard. Use when you can actually see the young, or if (as with cavity nesters) you only hear the young. A cowbird chick confirms both the cowbird and the host.

ATTACHMENT D: GRASSLAND BIRD SURVEY PROTOCOL

(adapted from Grassland Research Project by Jennifer Nesbitt, University of Illinois at Champaign-Urbana)

A. Rope Dragging: Use this technique in fields with short to medium grass height and containing few, if any, shrubs. Two people drag a 50' or 30' foot rope across a field, an observer follows behind to watch for birds flushed from their nests. The rope passes directly over the low nest without harming either its contents or the incubating adult. This technique is most effective for species that will flush directly off their nests.

B. "Sticking": In fields with shrubs that will snag the rope, employ meter sticks as nest-searching tools. Observers walk back and forth across a field in a line, swinging the meter stick in an arc across the grass and gently prodding small shrubs. Human footsteps and the motion of the sticks serve to flush incubating birds. This method is effective for shrub-nesting species, hard-to-find species, and those species that also are found by rope-dragging. For both of these search methods, a bird flushed off its nest will return to it soon after the observers leave the area.

C. Stalking: Some species will flush off their nest and run through the grass before they fly into the air. Often, these nests are well-concealed and cannot be found without knowing their precise location. The best way to find these nests is to follow the birds. Feeding adults or an incubating female will reveal the location of a nest if they are watched patiently from a distance.

APPENDIX F:

HAZARDOUS MATERIALS

Additions to Los Capitancillos Wetland DEIR

Hazardous Materials in Project Vicinity

Overview of Known and Potential Hazardous Materials

A Hazardous Substance Liability Assessment (HSLA) was conducted for the proposed Los Capitancillos Wetland Site by Kleinfelder (2001). Ten sites on regulatory databases were located within one mile of the proposed wetland site, but seven were considered to be downgradient or cross-gradient. Three sites were upgradient, of which two sites had been closed. No violations had been found on one of the sites, and the business was no longer present as of March 2000. A second site involved an underground tank, but was located over 1/3 miles away, and had been previously closed. Neither of these sites are considered to be a concern to the proposed wetland site. The third site, the Guadalupe Rubbish Disposal Company at 15999 Guadalupe Mines Road is located about 0.7 mile away. A diesel leak to soil occurred at this facility, but the leaking tank was removed in 1990, and five other diesel tanks were removed in 1995. This case was closed in 1998 (SCVWD, 1998). Thus, no hazardous waste generators, facilities with tanks, or disposal sites are thought to affect the proposed site.

No above ground or underground tanks were found on the site. No evidence of surface dumping or spills were found during a site survey on March 9, 2000 (Kleinfelder, 2001). Because no structures or buildings presently exist on the site, there are no areas with asbestos or lead-based paint. Overhead transmission lines cross the site, but there are no transformers; thus, PCBs are not likely to be present. The Almaden Valley pipeline and a storm drain cross the edge of the site, but do not represent a hazard to the proposed project.

Apparent "buried debris" was found in previous excavation activities in the northeast part of the Site by the District, as reported in the HSLA. Debris consisting of broken glass, asphalt, concrete, bricks, and imported soil was found on the surface near PT-I in an earlier field investigation in July 2000 by HTH. The authors of the HSLA noted the potential for hazardous materials in that area. However, no such materials were noted in the boring logs or test pits, although artificial fill was identified in the northeast corner of the project site during a later geotechnical investigation for this project by Parikh Consultants (2000).

Previous land use of the proposed site was for orchards from at least 1958 to the late 1970s. Oak Canyon Place and the residential houses on the south side of the site had been constructed by 1980 based on aerial photographs (Kleinfelder, 2001). Organo-chlorine pesticides were commonly used in orchards in the Santa Clara Valley, and low levels of selected pesticides have been detected in site soils as discussed below. Other pesticides or herbicides containing metals such as mercury, arsenic, or lead may have been used at this site.

The proposed wetland site is located next to Guadalupe Creek in the Guadalupe River Watershed, which had mercury mining operations in the headwaters region from 1845 to 1975 that produced mercury from the New Almaden Mining District. Over 80 percent of the mercury mining occurred between 1845 and 1935 when the Almaden and Guadalupe Reservoirs were constructed. Thus, mercury-bearing mine wastes and contaminated soils could have been transported downstream and been deposited on the site during flood events. The site is within the 100-year flood plain for the Guadalupe Creek. Sampling of the creek sediments and bank soils showed that mercury is present in some materials along the creek, ranging from 0.35 to 203 mg/kg (Tetra Tech, 2001). Specific sampling of the proposed wetland site has been conducted as described below.

Mercury Sampled in Los Capitancillos Area

The present Los Capitancillos site is a relatively flat, open area covered by annual grasses and a few large trees. The soils on the site are predominantly silty clay loam underlain by coarser soils such as gravelly loam (H. T. Harvey & Associates, 2000). Large cobbles are common, especially at depths below 2 ft. A total of 56 soil samples have been measured for mercury within the main Los Capitancillos area and four additional samples to the north near the bank of the creek. The mercury concentrations in soil of the combined data set within the planned wetland area ranged from 0.106 to 15 mg/kg. Thus, none of the samples would be classified as hazardous based on the TTLC[1], which is 20 mg/kg. The second criteria for determining if a material is classified as a hazardous material is the STLC[2] limit of 0.2 mg/L. If the soil or other material is greater than ten times the STLC limit in units of mg/kg, i.e., 2 mg/kg for mercury, the Waste Extraction Test (WET) must be conducted. The WET leachate concentrations were measured on 36 samples from the planned wetland area. The mercury concentrations in all 36 samples were less than the STLC limit of 0.2 mg/L.

Three sets of soil samples for mercury have been collected. The locations of all the samples in or near the planned wetland area are shown in Figure 1. The first set consisted of four samples from two test pits (Pt1 and Pt4) collected in May 2000, and 16 samples from four 8-ft deep borings (B1 through B4) collected in June 2000. The range of mercury concentrations in these samples was 0.106 to 8.02 mg/kg. These samples showed that the mercury concentrations decreased at a depth of 4 feet and below. (See Table 1.) Six samples were collected in June 2000 from four locations in the planned wetland area (LC5 through LC8). The samples within the planned wetland area (1.1 to 12 mg/kg) were considerably less than four surface soil samples collected further upstream along the creek (LC1 through LC4), which ranged from 6.9 to 160 mg/kg. These upstream locations are not shown in Figure 1. WET leaching tests were conducted on the ten LC-series samples, and none had leachate concentrations above the STLC limit. Thirty additional samples from six 8-ft deep borings (A through F) were collected in November 2000 near the planned basin of the wetland. The mercury concentrations in these samples ranged from 0.17 to 15 mg/kg. (See Table 2.) As in the previous data set, the mercury was higher at the surface (average of 3.85 mg/kg) than at depth, although not in each boring. The WET leaching test was conducted on all thirty samples; mercury was below detection in all these leachate samples, and hence less than the STLC limit of 0.2 mg/L. The mercury in the soils in the proposed wetland area are also less than the US Environmental Protection Agency preliminary remediation goals (PRGs) for residential areas of 23 mg/kg (US EPA, 2000).

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[1] TTLC =

[2] STLC = soluble threshold limit concentration from CCR Title 26.

Table 1
Mercury in Soils from Los Capitancillos Area

Depth	Test Pit 1	Test Pit 4	B1	B2	B3	B4	LC5	LC6	LC7	LC8
6 in	6.62	3.36	1.54	1.75	1.41	8.02	1.8	12	8.3	1.1
2 ft			0.64	0.58	0.538	5.22	1.4	9.9		
4 ft	0.359	0.129	0.14	1.4	0.106	0.45				
8ft			0.185	0.235	0.177	<0.02				

Units are mg/kg. Total mercury was analyzed using EPA Method 7471A.

Date are from Snata Clara Valley Water District. Samples were collected on 6/14/00 and on 6/20/00 for LC 5-8.

Samples LC1 through LC4 were collected from the surface above the Los Capitancillos near the creek bank. Mercury in these samples ranged from 6.9 to 160 mg/kg.

Table 5. Metals in Soils from Proposed Wetland Area

Metal	Units	EPA Method	A at Surf. 11/29/00	A at 6 in. 11/29/00	A at 2 ft. 11/29/00	A at 4 ft. 11/29/00	A at 8 ft. 11/29/00	B at Surf. 11/28/00	B at 6 in. 11/28/00	B at 2 ft. 11/28/00	B at 4 ft. 11/28/00	B at 8 ft. 11/28/00	C at Surf. 11/29/00	C at 6 in. 11/29/00	C at 2 ft. 11/29/00	C at 4 ft. 11/29/00	C at 8 ft. 11/29/00
Mercury	mg/kg	7471A	1.13	2.13	0.66	0.17	0.682	2.04	1.45	0.946	1	0.745	2.07	3.29	3.06	0.996	0.0609
Antimony	mg/kg	6010A	<4.86	<4.9	<5.31	<4.9	<5.26	<5.43	<5.43	<5.1	<4.77	<4.64	<5.31	<5.43	<4.6	<5.1	<5.2
Arsenic	mg/kg	6010A	30.1	35.9	41	42.2	38.2	35.1	39.5	37.3	33.2	38.1	36.1	36.4	39.6	40.5	37.1
Barium	mg/kg	6010A	124	164	184	111	133	156	166	178	161	138	156	170	149	158	91.6
Beryllium	mg/kg	6010A	<0.486	<0.49	<0.531	<0.49	<0.526	<0.543	<0.543	<0.51	<0.477	<0.464	<0.531	<0.543	<0.46	<0.51	<0.52
Cadmium	mg/kg	6010A	<0.486	<0.49	<0.531	<0.49	<0.526	<0.543	<0.543	<0.51	<0.477	<0.464	<0.531	<0.543	<0.46	<0.51	<0.52
Chromium	mg/kg	6010A	109	146	141	225	142	127	137	138	101	158	151	171	121	140	166
Cobalt	mg/kg	6010A	20	25.4	26	23.9	23.4	23.6	26.1	24.3	21.2	23.2	24.7	26.5	23.2	24.2	19.7
Copper	mg/kg	6010A	25	32.7	32.5	27.8	30.3	28.9	31.5	32.9	26.5	29.9	31.1	32.4	33.9	32.3	24.6
Lead	mg/kg	6010A	13.4	15.1	8.4	<4.9	7.3	14.5	15.6	9.67	8.15	7.68	14.5	14.6	8.23	8.41	8.08
Molybdenum	mg/kg	6010A	<2.43	<2.45	<2.66	<2.45	<2.63	<2.71	<2.71	<2.55	<2.38	<2.32	<2.66	<2.71	<2.3	<2.55	<2.6
Nickel	mg/kg	6010A	140	187	197	180	160	159	179	184	157	185	180	195	166	170	205
Selenium	mg/kg	6010A	<4.86	<4.9	<5.31	<4.9	<5.26	<5.43	<5.43	<5.1	<4.77	<4.64	<5.31	<5.43	<4.6	<5.1	<5.2
Silver	mg/kg	6010A	<0.486	3.09	<0.531	<0.49	<0.526	<0.543	0.559	<0.51	<0.477	<0.464	<0.531	3.64	<0.46	0.576	<0.52
Thallium	mg/kg	6010A	19.3	29	31.3	23.3	27.9	22.2	28.8	31.5	29.3	32	27	27.2	33.4	33.2	28.5
Vanadium	mg/kg	6010A	56	72.6	74.1	66.9	76.2	72.7	76.1	71.9	61.3	70	71	74.8	72	81.8	66
Zinc	mg/kg	6010A	53.2	61	61.2	48.6	54.8	58.4	63.3	61.1	52.1	56.7	60.6	61.3	60.6	60.7	51

Metal	Units	EPA Method	D at Surf. 11/28/00	D at 6 in. 11/28/00	D at 2 ft. 11/28/00	D at 4 ft. 11/28/00	D at 8 ft. 11/28/00	E at Surf. 11/28/00	E at 6 in. 11/28/00	E at 2 ft. 11/28/00	E at 4 ft. 11/28/00	E at 8 ft. 11/28/00	F at Surf. 11/28/00	F at 6 in. 11/28/00	F at 2 ft. 11/28/00	F at 4 ft. 11/28/00	F at 8 ft. 11/28/00
Mercury	mg/kg	7471A	15	2.27	3	1.76	1.17	0.552	0.895	0.82	1.27	0.203	2.35	1.04	0.865	0.57	0.502
Antimony	mg/kg	6010A	<5.2	<5.26	<5	<5.26	<5	<5.48	<5.31	<5.31	<4.72	<5.37	<4.95	<5.05	<5.2	<5.2	<5.48
Arsenic	mg/kg	6010A	25.5	39.8	37.6	38	32.2	21.3	22	38.5	35.5	30	37.8	36.8	41	40.5	41.2
Barium	mg/kg	6010A	115	169	161	136	106	96.9	89.8	190	141	127	154	165	177	141	119
Beryllium	mg/kg	6010A	<0.52	<0.526	<0.5	<0.526	<0.5	<0.548	<0.531	<0.531	<0.472	<0.537	<0.495	<0.505	<0.52	<0.52	<0.548
Cadmium	mg/kg	6010A	<0.52	<0.526	<0.5	<0.526	<0.5	<0.548	<0.531	<0.531	<0.472	<0.537	<0.495	<0.505	<0.52	<0.52	<0.548
Chromium	mg/kg	6010A	170	139	129	131	99.5	526	158	379	223	129	119	126	155	143	124
Cobalt	mg/kg	6010A	25.3	26.8	23.6	23.4	19.5	48.5	24	41.7	29.7	20.3	24.4	24.7	27.5	22.7	22
Copper	mg/kg	6010A	27.4	31.3	29.4	27	27.2	21.9	18.4	28.2	25.3	24.8	29.8	31.8	36.7	29.2	26.5
Lead	mg/kg	6010A	9.97	10.1	9.1	7.12	7.42	10.1	9.43	10.3	8.63	7.23	14.8	13.7	9.34	8.33	7.39
Molybdenum	mg/kg	6010A	<2.6	<2.63	<2.5	<2.63	<2.5	<2.74	<2.66	<2.66	<2.36	<2.68	<2.48	<2.52	<2.6	<2.6	<2.74
Nickel	mg/kg	6010A	209	187	176	155	110	739	264	467	347	179	155	168	189	154	126
Selenium	mg/kg	6010A	<5.2	<5.26	<5	<5.26	<5	<5.48	<5.31	<5.31	<4.72	<5.37	<4.95	<5.05	<5.2	<5.2	<5.48
Silver	mg/kg	6010A	<0.52	<0.526	<0.5	<0.526	<0.5	<0.548	<0.531	<0.531	<0.472	<0.537	<0.495	<0.505	<0.52	<0.52	<0.548
Thallium	mg/kg	6010A	33.4	33.3	28.3	28.7	25.4	37.7	21.3	42.5	31.7	24.9	26.1	26.7	31.8	28.9	24.9
Vanadium	mg/kg	6010A	58.1	77.6	73	72.2	64.1	49	43.9	73.4	64	61.5	81.1	73.5	84.2	77.5	81.1
Zinc	mg/kg	6010A	55.1	65.5	59	56.9	54.2	50.2	39.8	60.1	53.6	54.5	60.3	60.2	62.5	56.4	56.9

Data from Kleinfelder 2001.

Potential Impacts of Proposed Project and Mitigation Measures

1. Potential Impacts to Human Health due to Exposure from Mercury in Soils

Potential Impact

Construction activities related to installation of the wetland basin and inlet and outlet structures will require excavation of soil containing mercury. The excavation activities will temporarily disturb material, which could result in dust. Both construction workers and nearby residents could possibly be exposed to mercury or other metals in the dust. The mercury concentration is expected to be less than the hazardous criteria of 20 mg/kg and the residential PRG of 23 mg/kg, based on the previous soil sampling at the proposed wetland site. Because the mercury concentration could be higher, mitigation measures have been developed to reduce the potential impacts below a significant level.

Mitigation

The District will be required to comply with the Soil Management Plan developed for this project. The Soil Management Plan will include measures for monitoring and reducing dust during construction, stockpiling excavated soil until testing is complete, and transporting any hazardous or unneeded material offsite in accordance with state and federal regulations. The Soil Management Plan will describe the testing procedure to determine if the soil is hazardous, and the planned disposal options. Any excavated soil with a concentration above 20 mg/kg will be disposed to a Class I Landfill. The Soil Management Plan will include provisions for measuring dust levels and for implementing measures such as watering the newly excavated areas and stockpiles to prevent windblown transport of excavated soil. Provisions will also be developed for preventing migration of runoff containing soil particles to offsite areas including the residential street that borders the southern part of the proposed wetland, and for handling any groundwater seepage that could enter the newly excavated basins.

The construction company will be required to prepare and follow a Site-specific Health and Safety Plan (HSP) to identify potential hazards for onsite workers, visitors, and nearby residents; provide appropriate control measures; and prepare an emergency response plan. The HSP must comply with Occupational Safety and Health Agency (OSHA) requirements and Cal EPA procedures.

2. Potential Impacts to Human Health due to Hazardous Materials Encountered during Excavation

Potential Impact

Construction activities could result in exposure of soils or groundwater that contain hazardous materials, separate from the above mercury contamination. Specific project impacts resulting from encountering hazardous materials during construction activities could include potential exposure of workers to toxic materials, further contamination of soil and/or groundwater, and project delays and budgetary impacts as a result of characterization, removal and/or disposal of hazardous materials.

Because the site was formerly an open field and orchard and is now next to a residential housing area, such hazardous materials are unlikely. The Hazardous Materials Liability Assessment conducted for the District (Kleinfelder, 2001) did not identify any above ground or underground tanks on the site. However, there is still a potential for encountering subsurface hazards that have no surface features, such as abandoned underground storage tanks and piping, and contaminated material from undocumented dumping and land filling. This impact will be reduced to a less than significant level with mitigation incorporated into the project.

Mitigation

The District will inform the construction workers of the potential presence of unknown hazardous materials within project limits. The Soil Management Plan and Health and Safety Plan for the project will include contingency plans should such unexpected hazardous materials be encountered. If hazardous materials are found, the District will conduct Level I, Level II, and (if required) Level III hazardous materials investigations to identify and delineate the extent of the hazardous material contamination on the site, and will evaluate potential impacts on project construction. The construction contractor will be responsible for training workers in the safe handling and disposal of such materials, and making available safety equipment, in accordance with federal, state, and local regulations. The District may porovide assistance in obtaining appropriate safety equipment.

The District will verify that all hazardous waste materials removed during construction are handled and disposed of by a licensed hazardous waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility, in accordance with federal, state, and local requirements. The District will obtain acceptance from a proper disposal facility for soils that contain elevated concentrations of chemical contaminants, but are not classified as hazardous waste soil.

3. Potential Hazard Created Through the Routine Transport, Use, or Disposal of Hazardous Materials

Potential Impact

The proposed project will not require the long-term storage, treatment, transport, use, or onsite disposal of hazardous materials. However, small volumes of some hazardous materials will be stored, used, and handled during construction. The hazardous materials likely to be used are petroleum derivatives and other substances (e.g., gasoline, oils, lubricants, hydraulic fluid, solvents) required to operate construction equipment. These materials could be released in accidental spills. Additionally, the project will require stockpiling and possibly transportation of potentially hazardous mercury-contaminated soils. Once construction of the proposed project has been completed, no transport, use, or disposal of hazardous materials is expected. This impact will be reduced to a less than significant level with the implementation of the BMPs incorporated into the project.

Mitigation

The Soil Management Plan and Health and Safety Plan will include measures for handling incidental hazardous materials related to construction and for storing, sampling, and transporting soils with hazardous levels of mercury or other chemicals. Additional BMPs to control particulate emissions during construction will also be developed to insure that regulations of the Bay Area Air Quality Management District are met.

4. Potential Hazard Created Through Reasonably Foreseeable Upset and Accident–Conditions Involving the Release of Hazardous Materials into the Environment.

Potential Impact

Project construction activities could result in accidental spills of hazardous materials associated with the operation of construction equipment (e.g., gasoline, oils, lubricants, solvents). Implementation of project BMPs will reduce this impact to a less than significant level.

Mitigation

No mitigation measures are needed, because BMPs to handle accidental spills have been developed for this project (e.g., the Soil Management Plan, Storm Water Pollution Prevention Plan, and measures to control air-borne particulate emissions).

5. Potential Hazard Created through Hazardous Emissions or Handling of Hazardous or Acutely Hazardous Materials, Substances, or Waste within One-Quarter Mile of an Existing or Proposed School.

Potential Impact

The project area is located approximately 0.25 to 0.3 miles from three schools: Pioneer High School, Vineland School, and Cinnabar School. No hazardous emissions would be generated by the proposed project; however, excavation and disposal will require handling of mercury contaminated sediments and accidental emissions could occur. With implementation of project BMPs this impact will be less than significant.

Mitigation

No mitigation measures are needed, because BMPs to handle accidental spills of hazardous materials or emissions during excavation have been developed for this project (e.g., the Soil Management Plan, Storm Water Pollution Prevention Plan, and measures to control air-borne particulate emissions).

6. Impairment of the Implementation of, or Physical Interference with, an Adopted Emergency Response Plan for the Project Site

Potential Impact

Because the proposed project will involve the use of heavy machinery and trucks, emergency access to the project site may be temporarily limited. Emergency response times could be affected in areas where the construction activities (e.g., parking and staging) are adjacent to or within road rights of ways. Implementation of project BMPs will reduce this impact to less than significant.

Mitigation

No mitigation measures are needed, because BMPs to handle traffic-related effects will be implemented.

7. Impact of Mercury-Contaminated Soil on Wetland

Potential Impact

Previous soil sampling in the proposed wetland has identified mercury in the soils, as discussed above. Therefore, there is a potential for conversion of the inorganic mercury in the soils to methyl mercury. Mitigation measures have been included in the project to reduce this potential impact to less than significant.

Mitigation

The footprint of the proposed wetland is expected to be excavated to remove soils containing mercury above 1 mg/kg. Up to about 18 inches of clean soil will be replaced in nearshore areas where wetland plants will be established. Up to 12 inches of clean soil will be replaced in the basin areas. The clean soil will provide separation from the underlying soil. The Mitigation and Monitoring Plan will include monitoring methods to determine if significant methylation is occurring in the wetland and appropriate measures to reduce methylation and its potential effects. The wetland has been designed to allow most of the water to percolate through a series of rock-filled drainage basins, rather than discharge directly to the creek. Mercury strongly sorbs to soil, so the concentration reaching the creek will be less than the in the original discharge. Monitoring of this discharge will be conducted to determine if there are any potential impacts to the creek.

A berm to protect the proposed wetland against the 100-year flood has recently been constructed along Guadalupe Creek. This berm will prevent creek water and sediment from entering the wetland.

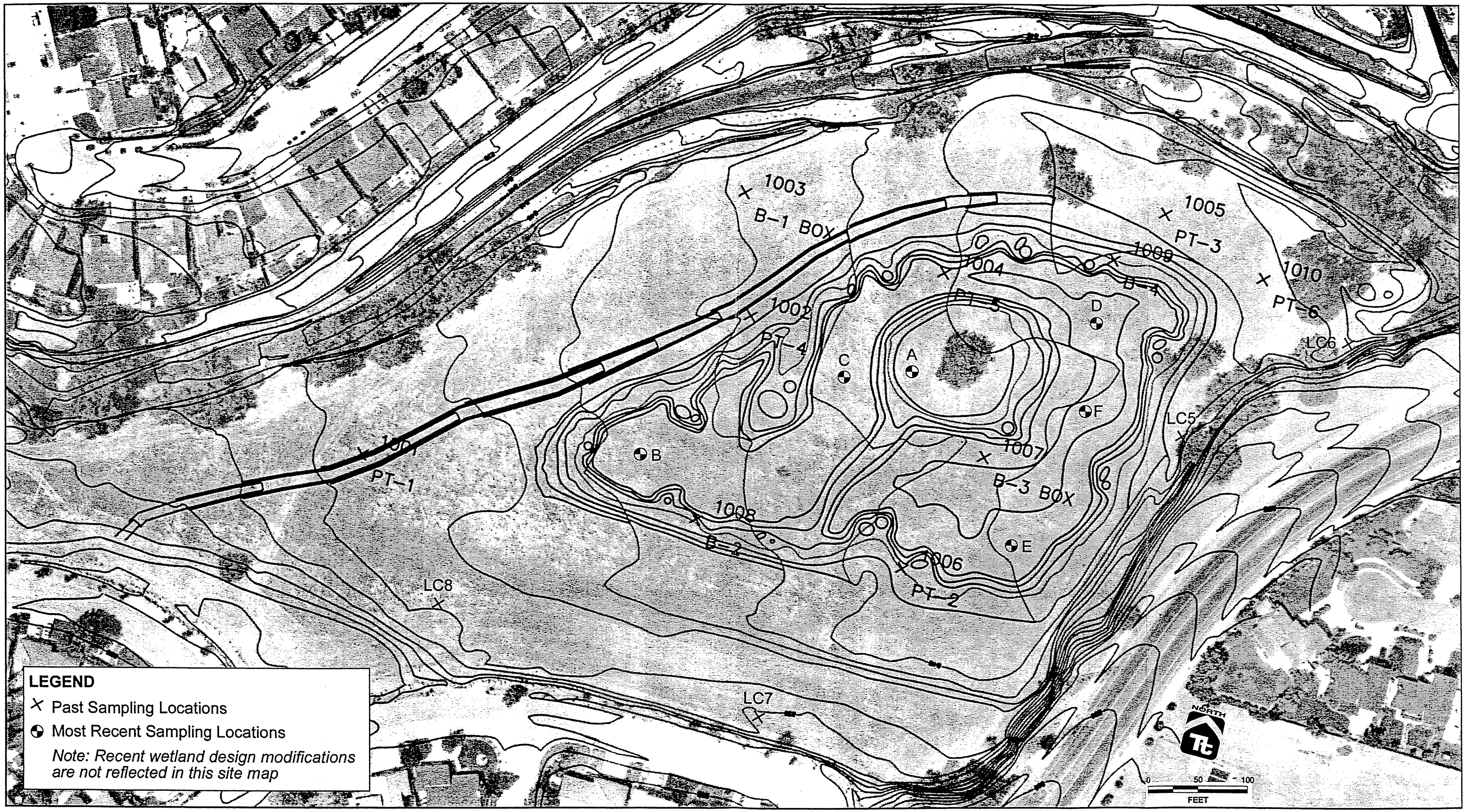
8. Impact of Mercury-Contaminated Water Sources on Wetland

Potential Impact

One of five possible sources of water to the Almaden Valley Pipeline that will provide water to the wetland is the Calero Reservoir. This reservoir receives overflow discharges from Almaden Reservoir, which receives runoff from the former Almaden Mining District. The water in the pipeline was measured in January 2001 when Calero was the source. The total mercury was 1.46 ng/L and the methyl mercury was less than 0.075 ng/L, using ultra-clean trace metal methods. These concentrations are similar to the median concentrations found in a survey of 21 basins throughout the US (Krabbenhoft et al, 2000), which was 2.28 ng/L for total mercury and 0.06 ng/L for methyl mercury. Water from Calero is used as a source for the pipeline only infrequently (only for a few weeks in February and March in 1997 and in December 2000 for the period from 1994 to 2001). Mitigation measures have been included in the project to reduce this potential impact to less than significant.

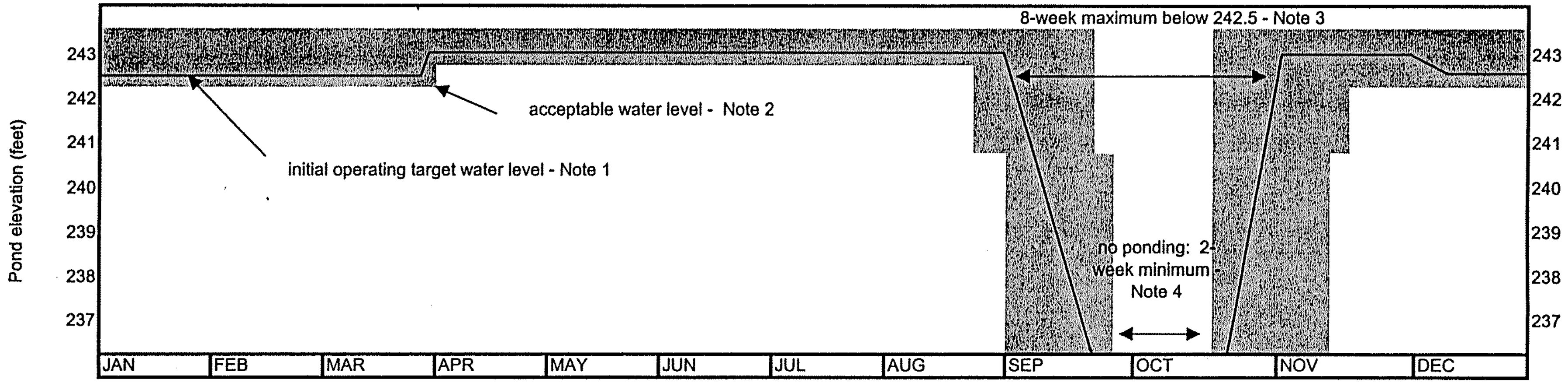
Mitigation

Methyl mercury concentrations in the winter are lower than in the summer or fall. The pipeline inflow to the wetland is planned to be stopped in July to allow the wetland to dry during the months of August and September. The drying period is needed to reduce the potential for impacts on special status species such as red-legged frogs from bullfrogs. Thus, the pipeline is not expected to be used during the late summer or fall when methyl mercury concentrations could be higher. Because Calero is routed to the pipeline only occasionally and both the methyl mercury and total mercury were low, the use of Calero is not thought to be a concern. Monitoring of the pipeline inflow to the wetland will be conducted to confirm if the methyl mercury concentration remains low.



Note: Recent wetland design modifications are not reflected in this site map

Hydrologic Regime



Notes:

1. The line indicates a target water level for the first year's operation, including a 0.5 rainy season drawdown from December - March. Actual target water levels may differ, as experience is gained in the operation of the wetland. This is a principle of adaptive management.
2. The shaded area indicates the range of acceptable water levels throughout the year, subject to the indicated constraints.
3. To limit stress on emergent vegetation, the maximum period of time for the water level to be below 242.5 should not exceed 8 weeks. Actual experience may trigger adaptive management changes in the length of this period; stress may begin earlier, especially in hotter periods. It may also be possible to keep the water level lower, longer, but this can only be assured through observation and experience.
   Lowered water levels will provide foraging habitat for migrating birds.
4. To limit bullfrog reproduction, a period of "no ponding" within the wetland of at least 2 weeks should occur.